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AN ANALYSIS
OF THE
Cost of Municipal and State Government
AND THE
Relation of Population to Cost of Government,
Net Taxable Income and Full Value of Real
Property in New York State

BY
Donald H. *D*ayenport



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PREFACE

The studies that follow are the outgrowth of an investigation of local government made by the Committee on Taxation and Retrenchment of the New York State Legislature in 1922. Pages 13 to 107 were published as part of a *Report of the Commission of Housing and Regional Planning to Governor Alfred E. Smith and to the Legislature of the State of New York on Cost of Government, Land Value and Population*, January 11, 1926. This preface takes the place of the introductory section of that report¹ and serves as an explanation and guide to the material that follows.

The general purpose of this inquiry was to describe and study the costs of *State* and local government in New York State. The interest of the Committee limited the scope of inquiry. No attempt was made to examine the cost of federal government borne by the citizens of New York and no attempt was made to allocate the expenses incurred by the *State* government to the various municipalities. Except for the introductory study in Section 1, where the total amount of *State* and local taxes levied from 1840 to 1923 is studied, the inquiry is limited to the period 1917 to 1921 inclusive. In some cases the studies relate only to the census year 1920. Comparable detailed cost of government figures were not collected prior to 1917. Therefore it is recognized that further studies will be needed, as additional statistics become available, to check the validity of the results presented in the following pages. Also, before the generalizations that are here suggested can be accepted as anything but hypotheses, similar studies must be made for other states and possibly for the United States as a whole.

Another important limitation in the scope of these studies should be noted. Except in Section 1, where we are dealing historically with the growth of the total costs of *State* and local government, the figures presented as the cost of government do *not* include the cost of schools. The decision to treat educational costs separately was made, as explained elsewhere (p. 24), to ensure the comparability of the data and because the Committee was more particularly interested in cost of government exclusive of education. The results obtained in Section V, where educational costs are taken up separately, are in a measure, a justification of this treatment.

It will be easier for the reader to grasp the meaning of the following studies if he has some understanding of the municipal units whose costs are here analyzed. For governmental purposes the geographical area of New York State is divided into sixty-two sections called counties. The area included within a *county* is

¹ This explains the pagination.

divided into smaller sections known as towns. In addition the county may contain one or more cities. A *town* is a geographical division of the county. The town governmental body is elected by the citizens who reside within the boundaries of the town. A town may contain one or more villages within its limits. A *village* is a more or less closely populated area that has been incorporated for the purpose of administering its own special governmental functions through its own administrative officers. It remains a part of the town, however, until because of its growth it can and does obtain a charter as a city. A *city* may be looked upon as a mature village. It is no longer subject to the town or towns out of which it developed. In fact as a city grows its boundaries may expand and it may absorb a number of former towns and villages. Their governmental needs are then met by the city and the smaller administrative units are eliminated. In the case of Greater New York, we have a city in which is now consolidated many former towns, villages and even cities. New York City includes five whole counties within its boundaries and for many purposes the city government has replaced these counties as administrative units. This is the only case of its kind in the state. In other cases the city is still a part of the county in which it lies.

In addition to counties, towns, villages, and cities there is still another unit charged with the special function of the administration of education. This is the *school district*. School districts are not necessarily co-extensive nor co-terminus with the other administrative units. They overlap even county lines. For that reason any allocation of their expenditures to the other municipal units is hazardous as it must be made upon some arbitrary basis.

All these political units, the *State*, counties, towns, villages, cities and school districts have independent taxing powers and contribute to the total cost of government in the state as a whole.

With this explanation we will now outline the procedure of the study.

In the first section attention is called to the growing importance of all governmental costs in New York State. A very rough attempt is made to allocate the relative responsibility for this increase among three factors: the increase in the number of inhabitants, the rise in the price level and the increased number of functions and services undertaken by governmental bodies (pp. 18-22).

In the second section statistical methods are used to describe in quantitative terms the various items that make up the cost of government. The principal classes¹ of governmental expenditures are analyzed and the relative costs of each are determined. The relative importance of the *State*, counties, towns, villages and cities as administrative units, is measured. The per family burden of governmental costs is determined in each of the different classes of political units. Per family costs in similar political units were found to exhibit such a wide variation that an attempt was made to find some general explanation which would account for this phenomenon. It was observed that the number of people living within a given municipality seemed to have some relation to the

¹ Exclusive of education.

absolute per family cost of government there. Thus it was found that per family costs in first class cities were higher than per family costs in second and third class cities, and these in turn were higher than per family costs in villages (see chart 7, p. 37). This suggested a study of the association of variations in population with variations in per family government costs.

Accordingly in Section III a study was made of the distribution of population in New York State. Wide differences in the populations of the same class of municipal units were found. Furthermore it was found that the cities were absorbing practically all of the growth of population within the state. Outside of the cities it was discovered that the rural areas were losing as were most of the smaller villages while the larger villages were increasing (see p. 48).

The remaining four sections of the dissertation are devoted to the study of the relationship existing between the populations of various municipalities and their costs, the value of their real property and their net taxable income. In these studies it is suggested that population is an index of the net effect of a large number of factors¹ each of which may presumably influence the variable in question. What we seek is an index or a measure of what Professor Seligman describes as the "intensity of the life of a community." To what extent is size, i. e., number of inhabitants, a measure of that intensity? The studies for 1920 reveal a strikingly close interrelationship between population and the total cost of all local government in counties (chart 10, p. 59). It should be pointed out here that the figures used for the cost of government are the total costs of all of the municipal units administering government within the county boundaries. That is, it includes the expenditures of the county, the towns, the villages and the cities lying within the county limits. It does not include *State* expenditure that might directly benefit a particular county. It was assumed in this study that *State* expenditure was equally distributed in its benefits to all of the citizens of the state.

In counties the nature of the relationship between population and total government costs in 1920 was such that the theoretical cost in a county with 10,000 inhabitants was \$112,350 while in a county ten times as large the theoretical cost was \$1,639,000 or fourteen and six-tenths times as large.

The question naturally follows from these results: How is population related to wealth and to income? In Section VI an attempt is made to answer this with relation to wealth as measured by the State Tax Commission's figures for the full value of real estate. While such figures of course are not an exact measure of the real wealth of a community, they are an index of a very important form of wealth that is present in every community and one that is used throughout the state as a measure of wealth suitable for tax purposes. Moreover, such figures are comparable for the different municipalities. A high degree of correlation was determined between the 1920 populations and the full value of real estate for the same year in the case of 59 cities and 100 villages of the state. (See chart 13, p. 68.) This was

¹ See p. 69.

such that the theoretical full value of real estate in a county containing 10,000 inhabitants in 1920 was \$8,531,000 while in a county ten times as large, i. e., containing 100,000 inhabitants, the value was \$124,600,000 or fourteen and six-tenths times as large.

In this connection it would be interesting to study also the relation between the populations and the annual incomes in different municipalities. Unfortunately there are no figures relating to real income. We must be content with the only figures available, namely those for state net taxable income by counties. These must be taken with a full realization of their short-comings. They do not include the incomes which are exempt from taxation. They do not show the manner in which the total income is distributed among the inhabitants of a county. For rural counties the total falls far short of real income as the farmer obtains a goodly portion of his income "in kind" from the farm. This is not reported as net taxable income. On the other hand there is probably some evasion in the urban counties due to the purchase of tax exempt securities by wealthy city residents.

However, with all its shortcomings it is the best index available of the total income earned within the different counties. Therefore in Section VII the relation between the 1920 population and state net taxable income for the same year was studied. (See chart 14, p. 70.) The county was taken as the unit. A very high degree of association was revealed. The relation in this case is of the same general nature as the others. Moreover the degree of relationship is extremely high, much higher than in the other cases. However the line of average relationship indicates that the rate of increase in total net taxable income corresponding to increases in population is not so great as in the case of real property valuation or government costs.

While the chief importance that is attached to these studies lies in the illustration that they give of the value of the empirical method in throwing light upon some of the problems of government it may be worth while to summarize briefly the findings of this study:

(1) The total *State* and local taxes levied in New York State increased 382 per cent from 1900 to 1923.

Roughly we may say in accounting for this growth of costs that the increase in the population was half as important as the rise in prices and three-fifths as important as the increase in the measure of services performed by the government for the average citizen of the state.

(2) For the period 1918-21, the average annual expenditure for *State* and local government, exclusive of education, amounted to 320 million dollars. Of this the *State* was responsible for almost 20 per cent, the counties (exclusive of the five counties included in New York City) for 6 per cent, towns for about 5 per cent, villages for 2 per cent and cities for 67 per cent. New York City alone accounted for 53 per cent.

(3) In 1920 the lowest average per family costs for local government amounted to \$24.65. This was for town government in towns containing one or more villages and was enjoyed only by

those town inhabitants who were living outside of the village limits. Inside the village the average per family costs (town costs plus village costs) amounted to \$57.50.

In towns in which there were no villages, the average per family costs in 1920 amounted to \$48.55, while in cities of the second and third class the average per family costs were \$66.30.

(4) Between 1910 and 1920 thirty-three counties in New York State lost in population. Twenty-five of these were counties under 50,000 in population. Of twenty-eight counties that gained in population, twenty-three were over 50,000 in population.

A similar movement is discernible in the villages. Of the 191 villages which were under 1,000 in population in 1920, 134 had lost in population; while of 84 villages which were larger than 3,000 in population, only 16 had lost between 1910 and 1920.

(5) The average per family costs of county governments were found to vary with the size of the population. High costs were found in the extremely small counties and also in the extremely large counties, while the lowest costs occurred in the counties of medium size. This points to possible economies from the union of the smaller counties and the division of the larger.

In towns the tendency is very marked for average per family town costs to increase as the size of the town decreases. The average annual cost in non-village towns under 1,500 in population was \$47.77 while in non-village towns over 1,500 in population the average cost was \$35.19. This suggests the advisability of inquiring into the possible economies to be obtained by the combination of smaller towns.

Village costs, on the other hand, exhibit a tendency to increase with the size of the village. For villages under 1,000 in population the average per family cost was \$21.10 while in villages over 3,000 in population, the average cost was \$33.86.

Second and third class cities carry out the tendency observed in villages. The larger the city the greater the average per family cost. There is no marked evidence of a most economical size for a city.

The author wishes to express his obligation to Professor E. R. A. Seligman who was expert counsel to the Committee on Taxation and Retrenchment when this study was first contemplated. He is also under deep obligation to Professor Robert Murray Haig who has given freely of his criticism and advice, to Professor Robert E. Chaddock, to Professor Henry L. Moore and to Professor Frederick C. Mills for their interest and counsel, and to Doctor A. F. Hinrichs who assisted in the collection of the basic data and who read the manuscript.

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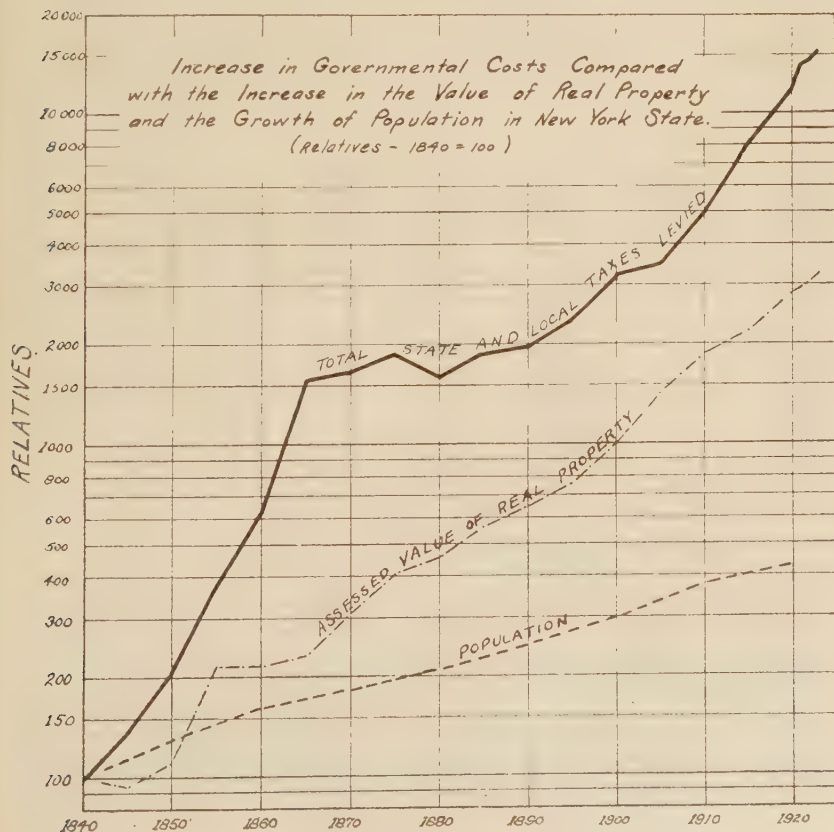
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I. INTRODUCTION AND STATEMENT OF THE PURPOSES OF THIS STUDY

The rapid increase in prices that followed the recent war and the resulting rise in living costs has given a greater interest to economy in affairs, both private and public. The cost of government has become so great that governmental economy is now an important plank in the platform of every political party. The rate at which governmental costs have risen in the past eighty years naturally raises the question as to the causes for this increase.

In 1840 the total state and local taxes levied in New York State amounted to three million dollars. In 1923 this figure had grown to four hundred eighty-three million dollars. In 83 years, governmental costs had increased fifteen thousand per cent. The population, at the same time, had increased approximately 337 per cent. To express this a little differently, the per capita cost of \$1.27 in 1840, had risen to \$45.97 by 1923.

CHART 1



If attention is confined to the twentieth century, the rate of growth is scarcely less striking. Between 1900 and 1923 the population of New York State grew from 7,268,000 to 10,502,000, an increase of approximately 44.5 per cent. In the same period, the total levy of state and local taxes grew from \$100,099,372 to \$482,727,335, an increase of 382.2 per cent. In these twenty-three years, governmental costs (on a per capita basis) increased from \$13.77 to \$45.97.

These facts challenge attention. Let us examine the causes that have contributed to this tremendous increase in the cost of government.

TABLE I.

COMPARISON OF THE GROWTH IN THE AGGREGATE STATE AND LOCAL TAXES LEVIED, ASSESSED VALUATION OF REAL PROPERTY AND THE POPULATION OF NEW YORK STATE FROM 1840 TO 1923.

Actual figures and relatives with 1840 equal to 100.

(Presented Graphically in Chart I.)

YEAR	Total State and local taxes levied (millions)	Assessed value of real property (millions)	Population (millions)	INDEX NUMBERS—1840=100		
				Total State and local taxes levied	Assessed value of real property	Population
	(1)	(2)	(3)	(4)	(5)	(6)
1840.....	\$3,088	\$517.7	2,429	100	100	100
1845.....	4,171	486.5	.....	135	94	.....
1850.....	6,313	571.7	3,097	204	110	128
1855.....	11,678	1,107.3	.....	378	214	.....
1860.....	18,956	1,119.9	3,881	614	216	160
1865.....	45,961	1,196.4	.....	1,520	231	.....
1870.....	50,329	1,599.9	4,383	1,630	309	180
1875.....	56,926	2,108.3	.....	1,843	407	.....
1880.....	49,118	2,340.3	5,083	1,590	452	209
1885.....	57,266	2,899.9	.....	1,854	560	.....
1890.....	60,624	3,397.2	6,003	1,962	656	247
1895.....	72,401	3,908.9	.....	2,344	755	.....
1900.....	100,099	5,093.0	7,269	3,241	984	299
1905.....	106,442	7,312.6	.....	3,447	1,412	.....
1910.....	153,310	9,639.0	9,114	4,964	1,861	375
1915.....	249,345	11,335.6	.....	8,074	2,189	.....
1920.....	368,412	14,595.7	10,385	11,927	2,819	428
1921.....	439,029	15,225.2	.....	14,215	2,941	.....
1922.....	452,190	15,957.0	.....	14,641	3,082	.....
1923.....	482,727	17,037.8	.....	15,630	3,291	.....

(1) and (2) Report of the New York State Tax Commission. 1923.

(3) Fourteenth Census of the United States.

(4), (5) and (6) Index numbers based upon (1), (2) and (3) respectively.

The cost of providing food for an army at a particular time might be thought of as the product of the number of soldiers, the quantity of food in a ration, and the cost of a single ration of food. The total cost would change as any or all of these three factors changed. For example, if the size of the army were doubled, but the ration remained the same, and the price of a ration remained the same, the total cost of feeding the army would be twice what it was in the first place. If, on the other hand, the size of the army were doubled, and the size of the average ration were also doubled,

the total cost of feeding the army would be *four times* what it was in the first place. And if, in addition to doubling the size of the army and the size of the ration, the price of the average ration were also doubled, the total cost would amount to *eight times* the cost in the first place.

In the same way we might look at the total cost of providing governmental services to the population of New York State. The total cost will be the product of the *number of people* for whom services are provided, the *measure of governmental service* rendered the average individual, and the *price* at which this "ration" of governmental service is provided. Between 1900 and 1923 all three of these factors changed considerably. Population increased 44.5 per cent. The general level of prices (as measured by the Bureau of Labor Statistics index number of wholesale prices which we will take as a rough measure of the way in which the cost of the commodities and services consumed by the government fluctuate) increased 90.1 per cent.

The increase in the measure of governmental services rendered the average citizen can be calculated by deflating¹ the total cost of government in 1923 and reducing this to a per capita basis. The relation between the *deflated per capita cost* in 1923 and the *per capita cost* in 1900 then will indicate the increase in the measure of governmental services provided for the average citizen.² This procedure shows us that the governmental services in 1923 were 1.756 times those of 1900. Then we can summarize the changes thus:

	1900	1923	Ratio of 1923 to 1900
Total cost of State and local government	\$100,099,372	\$482,727,335	4.822
Deflated total cost of State and local government (1900 = 100)	\$100,099,372	\$253,933,369	2.536
Deflated per capita cost of State and local government	\$13.77	\$24.18	1.756
Population	7,268,894	10,502,000	1.445
Prices (Bureau of Labor Statistics Index of wholesale prices)	100	190.1	1.901

The product, then, of 1.445, 1.901 and 1.756 should represent the relationship between the total cost of government in 1923 and in 1900. This product amounts to 4.823, and agrees with the relationship of the total cost in 1923 to that of 1900.

¹ By dividing the total cost in 1923 by the index of prices (1900=100). For an explanation of method see pp. 307-314 in *Statistical Methods*, F. C. Mills, Holt & Co.

² This measure of services rendered the average citizen records the combined effect of both quantitative and qualitative changes, just as the quantitative and qualitative changes in a ration of food might be recorded in the number of calories in the ration.

It is impossible to determine the separate influence of any one of these factors without postulating that the others were held constant. The following table indicates the relative importance of the different factors when taken separately and jointly.

RELATIVE IMPORTANCE OF THE DIFFERENT FACTORS IN THE INCREASE
OF THE COST OF GOVERNMENT IN NEW YORK STATE FROM 1900
TO 1923

If these factors were held constant	And if these factors were allowed to increase as they actually did from 1900 to 1923	Then the total cost of State and local government would have been increased by the following amount:
Population..... } Services..... }	Prices.....	\$90,189,534
Prices..... } Services..... }	Population.....	44,544,220
Prices..... } Population..... }	Services.....	75,675,124
Services..... } Prices..... }	Population..... } Prices..... }	174,868,092
Prices..... } Population..... }	Population..... } Services..... }	153,894,771
Population..... } Prices..... }	Prices..... } Services..... }	234,047,941
Prices..... } Population..... }	Prices..... } Population..... }	382,628,021
Services..... } Prices..... }	Services..... }	Nothing

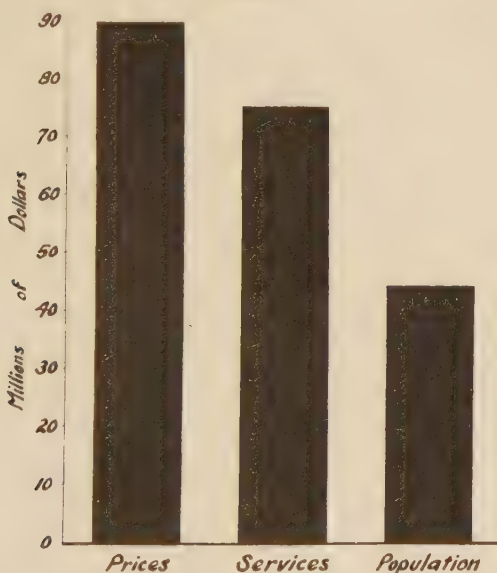
If there had been no increase in population and no enlargement of the scope nor improvement of the character of governmental services, then, because of the increase of prices alone, the cost of government in 1923 would have been \$90,189,534 greater than it was in 1900. If there had been no increase of prices and no increase of the services and functions performed by the government other than those necessary to provide for the increase of population between 1900 and 1923, then the cost in 1923 would have been greater than that in the former year by \$44,544,220. On the other hand, if there had been no increase of prices and no increase of population, but merely an enlargement of the scope and an improvement of the character of government such as actually took place, then the cost in 1923 would have been \$75,675,124 greater than it was in 1900.

There is still another way of looking at this situation. If there had been no enlargement of the scope and no improvement of the character of governmental services, then, due to the *combined* influence of the increased population and the higher price level,

the cost of government in 1923 would have been \$174,868,092 greater than it was in 1900. If there had been no increase of prices, in order to provide the increased population with the 1923 standard of governmental service, the governmental costs would have been \$153,894,771 greater than in 1900. On the other hand, if there had been no increase of population, in order to provide the 1923 standard of governmental service at the 1923 price level, the total cost would have been \$234,047,941 greater than it was in 1900.

Had the state remained in a static condition from 1900 to 1923, that is, if there had been no increase of population, no increase of prices and no change in the nature or scope of governmental services the total cost in 1923 would have been the same as it was in 1900. But with all three factors changing as they actually did, in 1923 it cost \$382,628,021 more than it cost in 1900.

CHART 2



Increases in the Total Cost of State and Local Government from 1900 to 1923 Caused by the Independent Increases of Prices, Governmental Services and Population.

From this analysis it appears that the increase in the measure of governmental services is about twice as important as the growth of population and only slightly less important than the rise in prices, in accounting for the increase in the cost of government from 1900 to 1923. Many causes have contributed to the enlargement of the scope of governmental activities and to the improvement of the character of governmental services. The automobile has necessitated more and better highways. It has also multiplied

the difficulty of the traffic control problem and created the necessity of coping with the motorized criminal by more adequate but more expensive methods. An awakened interest in education has improved our schools and colleges causing greater educational expenditures. Prohibition enforcement, the soldiers' bonus and the more adequate care now given inmates of state institutions are in part responsible for the greater cost of government. And as is pointed out in a later section, the increase in the density of population multiplies the demand for services. All of these facts point to a very significant change that has been taking place in the attitude toward government.

The *laissez faire* philosophy taught by the Physiocrats and Adam Smith, led people to believe that government should let things alone. The government was restricted in its control of trade and industry. The less government the better. The best tax was the smallest tax. In the nineteenth century a change took place. It became evident that the absence of governmental regulation in business was not an unmixed blessing.

The industrial revolution resulted in serious social evils which were capable of correction only through the medium of governmental action. The government was forced to assume many new functions. As population increased, as cities grew, and as trade and commerce developed, the role of government as an agent for collective action became more and more important.

This change is marked in national, state and local governments. In each old functions were expanded and new functions added.

One of the most important developments was the growth in the importance of education as a governmental function. The spread of democracy made desirable the compulsory education of future citizens at public expense. Moreover, the increasing complexity of industrial life made it most urgent that greater attention be given to training for industrial efficiency. School costs have grown so that this item is the largest single expense of local government. Our ideas of the proper treatment of the criminal and the insane have changed. Government, today, gives a great deal more thought to the prevention of crime than it formerly did. As the cities have grown up, public parks and play-grounds have become a necessity. The rapid depletion of the forests has made it important that large areas be purchased and preserved for public use at public expense.

Today, the government holds an entirely different place in our minds from what it held even fifty years ago. There is scarcely a phase of modern life that is not affected to some extent by one of the many activities of governmental bodies. Births and deaths are registered by officers of the city or village in which we live. A state law compels us to attend school and a free public school is provided for the purpose. We study from books approved by state authorities, under teachers licensed, hired and paid by taxes levied in the state. We secure a license to get married. The state keeps a record of our marriage. The state records the deed to the home we

own and registers a mortgage against it. Government furnishes us with streets, sidewalks, electric lights and sewers. It protects our homes from thieves and punishes anyone who attempts to injure either our persons or property. When we die, the government continues to protect our property and insures that our wishes as to its disposal will be carried out. Certainly, in a state that continues to grow as rapidly as New York has, and in which the increases in governmental costs show no signs of stopping, there is ample justification for a study of the facts bearing on the cost of government.

This investigation was started with two purposes in view: first, the determination of certain important facts concerning the cost of government in New York State, and second, a study of the bearing of population upon governmental costs. We are seeking to answer such questions as the following:

1. How much is spent each year for governmental purposes by counties, towns, villages, cities and the *State*?
2. For what purposes are these costs incurred?
3. What is the relative importance of the different municipal units in providing governmental services?
4. What influence has urbanization upon governmental costs?
5. What effect has emigration from the rural areas upon governmental costs?
6. In what size unit is government most economically administered?
7. What is the relation of population to the cost of government, the valuation of property, net taxable income?
8. How is it possible to judge whether the expenditure of a given municipality is higher or lower than it normally should be?

It is proposed to seek an answer to these and other questions by means of a statistical analysis of the cost of government figures collected by the State Comptroller and by the State Tax Department.

One of the difficulties with an objective study of government arises from the fact that government is not a standardized product like granulated sugar. Government is a service, the quantity and quality of which varies widely from place to place. The government of a country village is quite different from that of a large city. To attempt a comparison of urban and rural government may not seem significant. However, the nature and the extent of the government of any community depends upon the collective demands of the inhabitants. What we seek to measure and compare is the extent to which the collective needs of a community are satisfied through the organized political structure, regardless of whether the demands are great or small.

It is the writer's contention, borne out by this study, that the *size* of a community *i. e.*, its population, determines largely the nature and the extent of the demands made upon its government. A community grows because it offers advantageous living condi-

tions and opportunities for making a living. As the population increases the collective wants of the community increase. Moreover, as will be shown, population is closely related to property value and to income. Therefore as a growing population feels an increase in its collective wants, the increasing wealth of the community makes it possible to satisfy those wants. Here and there we find an exceptional case. A very small village which contains a few exceptionally wealthy inhabitants, will demand and obtain governmental services on a parity with those of the most modern city and at a relative cost far greater than in other units of the same size. By and large, however, the larger the community the greater will be the cost of government and the greater will be the burden of the individual taxpayer.

Governmental costs provide us with an objective measure of the extent to which the collective needs of a community are satisfied by its government. Cost is the common denominator that permits us to compare urban and rural governments in the extent of their development. In any particular case, at any particular time, the cost of government may not be an entirely satisfactory measure of the quantity and quality of governmental service. However, when a large number of cases are analyzed statistically, over a period of time, we are confident that governmental costs may be taken as a fairly good measure of the governmental service rendered.

It should be noted that this study deals primarily with the more strictly governmental costs. Educational costs have been treated independently and much less intensively than governmental costs proper. There were two main reasons for this. First, it was desired to make the government cost payment of different municipalities comparable. The administration of education is handled differently in different sections throughout the state. In many cases, the boundaries of school districts cross county, city, town and village lines. School districts are not necessarily co-terminus nor co-extensive with the districts set up for the administration of the other governmental functions. In the case of cities, we find that in some the school cost is included as a part of the city cost, in others the city costs are separate from the costs incurred by school boards.

The second reason for drawing a distinction between education costs and the other costs of government and for treating the former less intensively was that at the time this study was undertaken a very elaborate investigation of the cost of education in New York State was then under way. The Educational Finance Inquiry Commission, working under the auspices of the American Council on Education was then at work preparing its report, "The Financing of Education in the State of New York." It would have been wasteful to duplicate their efforts. The reduction of the costs of different municipalities to a comparable basis was

made possible by the uniform classification of municipal accounts. Attention was concentrated upon those items which are classified by the State Comptroller as the *Cost of Government*.¹

II. A STATISTICAL ANALYSIS OF THE COST OF GOVERNMENT IN NEW YORK STATE

Before attempting to determine costs of government in New York State it may be well to describe very briefly the political structure that has grown up to meet the collective governmental needs and for the operation of which these costs are made. In 1920 New York had a population of more than 10,000,000 people, over half of whom were concentrated in the 200,000 acres of New York City. The rest were distributed over the other 29,000,000 acres of the state. The tremendous task of administering the government of these people is accomplished through separate government bodies in each of 62 counties, 59 cities, 932 towns, and 471 villages. All of these political units are subsidiary to the *State government*.

The state is divided into a number of divisions known as counties. The county receives all its powers from the state and exists merely for the purpose of governmental administration. The county is divided into towns and cities. In the largest towns are found more or less thickly populated sections called villages.² Here the density of population has given rise to special governmental needs that do not exist in other parts of the town. These sections have become incorporated as villages. As such they may act independently of the town in satisfying their needs for sewers, waterworks, police and fire protection, etc. The village, however, remains part of the town from which it was created. It is still subject to town jurisdiction and the town government continues to perform certain governmental services for village residents. Village residents pay taxes to the town and participate in town elections. In the administration of its own peculiar needs the

¹ This includes the following: General government, protection of persons and property, conservation of health, sanitation and the promotion of cleanliness, highways, charities and corrections, education (not schools), recreation, public utilities—non commercial, all others, interest.

It should be observed that the term, cost of government, excludes the following items:

Public utilities—commercial, permanent improvements, municipal indebtedness, advances and deposits, transfers, refunds, trust and investments transactions.

² The question of whether or not a locality shall be incorporated as a village is decided in this fashion. Upon the application of 25 adult freeholders "residing in a territory not exceeding one square mile, or an entire town, containing in either case a population of not less than 200, and not including a part of a city or village," the supervisor may direct an election of the resident taxpayers of the territory to determine the question. If at such an election the majority of the votes are in favor of the proposition, then upon filing a certificate of that fact in the office of the county clerk the village is incorporated.

village elects its own officers, raises its own funds and manages its own government.

When a village has attained a population of 10,000 it may petition the state legislature for a city charter. Cities are independent of the town or towns from which they are created or which were included within their limits. However, they are still part of the county in which they lie and are subject to their share of the expense of county government.¹

In some towns we find certain districts that have peculiar needs or make demands for special services that are not common to the inhabitants of the rest of the town. These demands have been met by creating what are known as *special districts*; for example, sewer districts, fire districts, sidewalk districts etc. The town government retains complete control over these areas and administers their special needs. They are provided with the specific services required and the inhabitants residing therein, on that account, are taxed proportionately higher than other residents of the town.

In addition to the political units described above it should be pointed out that there is another unit organized for the sole purpose of providing and administering the educational facilities. This is the *school district*. School districts are created by the County Board of Supervisors and may be neither co-extensive nor co-terminus with towns, village or city. They exist solely for their special purpose as separate units and may levy their own taxes and incur their own expenses quite independently of the organizations which otherwise take care of the collective needs of the inhabitants.

As has been pointed out in this study we are primarily interested in the costs of government proper and only secondarily in the costs of education. For that reason the expenses incurred by school districts are not included in the analysis that follows.

THE RELATIVE IMPORTANCE OF DIFFERENT GOVERNMENTAL UNITS WITH RESPECT TO FUNCTIONS AND COSTS.²

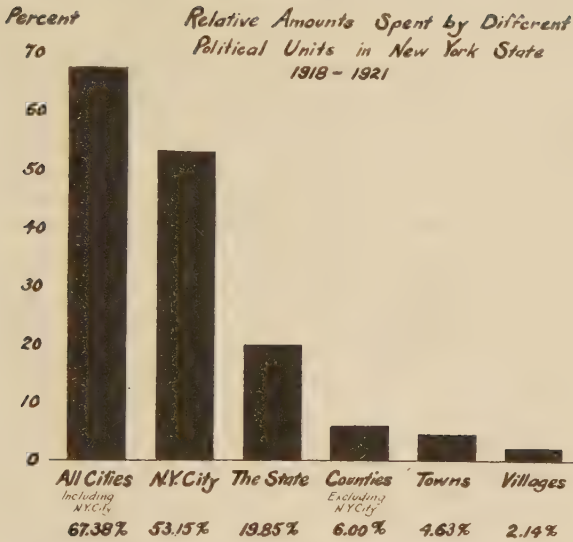
Politically, the *State*³ has no equal among the units administering local government. In influence and authority it is more powerful than the county, town, village, or city. However, in the matter of costs Greater New York City stands in the first place. The chart below presents an analysis of the total average annual cost of all *State* and municipal units for the four years 1918-1921.

¹ New York City contains five boroughs which are co-extensive with the five counties included within its boundaries. Here the city government performs many of the functions which, in other sections, would be undertaken by the county.

² The figures upon which this analysis is made appear in the Appendix as Table XVIII. To facilitate comparison a summary table and chart 3 are presented on the following page.

³ In distinguishing the *State* government from the local government the word *State* will be in *italics* and capitalized. When reference is made to the state as a whole it will be printed thus: state.

CHART 3

SUMMARY TABLE SHOWING RELATIVE IMPORTANCE OF DIFFERENT
POLITICAL UNITS IN NEW YORK STATE.

POLITICAL UNIT	Number of people affected by each, 1920	Total average annual cost of such units — 1918-21 (exclusive of Education)	Percentage of N.Y. State popula- tion affected	Percentage of total cost of govern- ment spent by such units
State.....	10,386,773	\$63,625,381	100.00	19.85
Counties (excluding New York City).....	4,766,725	19,224,628	45.89	6.00
Towns.....	2,298,028	14,826,364	22.12	4.63
Villages.....	854,386	6,873,644	8.23	2.14
Cities (including New York City).....	8,082,755	215,966,466	77.82	67.38
New York City.....	5,620,048	170,358,240	54.17	53.15
Total.....	10,386,773	320,506,477	100	100

Educational costs have been excluded from these figures to avoid duplication and to insure comparability of results.¹

¹The State, for example, distributes school money to counties. Each county distributes its share to its various school districts. The difficulty is further complicated by the fact that except in some cities, school districts are separate and independent administrative units. It is estimated that the total average annual cost of education from 1918 to 1921 amounted to \$102,656,052. See Table XXIII in Appendix.

During this period the *State* spent an average of \$63,625,381 per year or 19.85 per cent. of the total cost of all governmental units of the state.

Every inhabitant of New York State falls within the jurisdiction of some county. In New York City, county costs are not strictly comparable with costs in other counties nor are they kept distinct from the city costs. Exclusive of New York City, there were almost five million people, in 1920, living in the 57 counties. The average annual expenditures of these counties amounted to a little more than 19 million dollars. That is, they spent 6.0 per cent.¹ of the total cost of government in the state.

The town is still an important unit in the administration of local government. In 1920 more than one-fifth of the total population lived in the 932 towns of New York State. 854,000 of these people lived in villages within towns, where the governmental functions performed by the towns are supplemented by functions performed by the village government. The average annual expenditure of towns amounted to almost 15 million dollars or 4.63 per cent.¹ of all governmental costs within the state.

The cities of the state contain 77.82 per cent. of the population. Their annual average expenses were 216 million dollars or 67.38 per cent.¹ of the total cost of government. While from a political point of view the *State* is the most important governmental unit, when one comes to consider the amount of money spent for governmental purposes, cities take first place. New York City, alone, spends two and one-half times as much on its government as does the state of New York.

It is also interesting to analyze the costs of the various governmental functions in the same way. Such a picture shows the relative amounts spent for similar purposes by the different political units. In so far as costs may be taken as a measure of the extent to which these functions are performed, this analysis measures the division of governmental functions among the political units.

The charts 4 and 5 will help to bring this out. They show the relationship that the amounts spent by each unit bear to the total amount spent by all units for particular functions. Thus the total cost of *general government* amounted to almost fifty-three million dollars a year in this period. Of this, 63.26 per cent was incurred by cities, 16.28 per cent by the *State*, 13.27 per cent by counties, 5.71 per cent by towns, and 1.48 per cent by villages.

Of the sixty million dollars representing the average annual cost of *protection of persons and property* to the people of New York State, 80.76 per cent was paid by cities, 12.76 per cent by the *State*,² 13.33 per cent by counties, 2.80 per cent by towns and 1.57 per cent by villages.

¹ All cost of government figures in terms of percentages refer to the four years period 1918-1921 inclusive.

² About one-third of this was for the "Development and Conservation of Natural Resources."

Conservation of Health is a function that annually costs the citizens of the state eleven million dollars. The *State's* share during this period was 12.76 per cent, the counties' 13.33 per cent, the cities' 69.54 per cent, the towns' 2.80 per cent, and the villages' 1.57 per cent.

Sanitation and the Promotion of Cleanliness occasioned an annual expenditure of 22 million dollars. It is not important in *State* or county. The *State* has no separate classification for this item. In counties it amounted to less than one-tenth of one per cent. The bulk of this expense, 96.61 per cent, was incurred by cities. It amounted to 1.00 per cent of town and 2.32 per cent of village expenditures.

Highways, on the other hand, is a function which is mainly divided between the *State*, cities, and towns. The total average annual cost of highways was 39 million dollars. 31.22 per cent of this expense was met by the *State*, 34.76 per cent by cities, and 23.31 per cent by towns, leaving 7.38 per cent that was paid by village and 3.38 per cent by counties.

Of 47 million dollars, the average annual amount spent for *charities and corrections*, 40.24 per cent was the *State's* portion. 14.43 per cent was paid by counties, 1.75 per cent by towns, and the balance, 43.58 per cent by the cities. Villages reported no expense under this heading.

Recreation is a class of expenditure which comprises the maintenance of public parks, playgrounds, etc.; the average annual cost of this service was less than 7 million dollars. As would be expected, cities contributed most of this. Their share was 93.06 per cent, 5.55 per cent was the *State's* share and 1.39 per cent the villages'. Counties and towns have no expenses under this head.

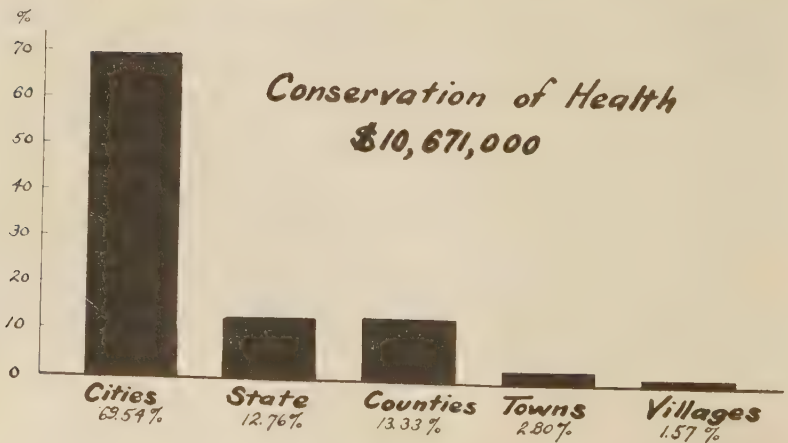
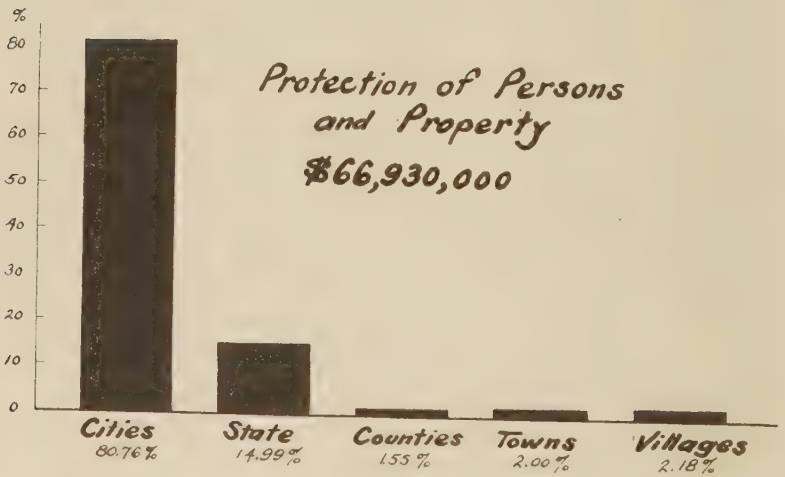
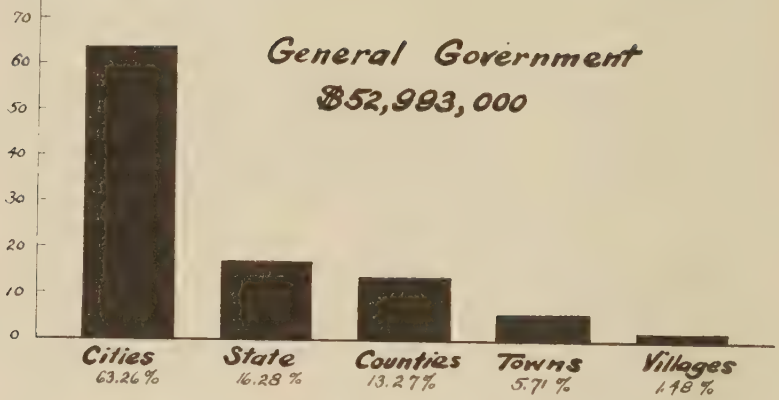
Public utilities—non-commercial consists of the maintenance of public docks and the regulation of public markets. These items cost the inhabitants of New York State slightly less than 4 million dollars a year during the period studied. Neither the *State* nor counties incurred such expenses. 98.38 per cent of all expenses of this kind occurred in cities, 0.72 per cent in towns and 1.20 per cent in villages.

Interest includes that paid on both temporary and funded debts. This cost amounted to 66 million dollars, the second largest item of government expense. The *State's* share in this was 14.66 per cent while the counties' portion was only 2.12 per cent. In towns and villages, this item of cost was relatively unimportant, being only 0.72 per cent in towns and 1.20 per cent in villages. Cities, however, paid 81.30 per cent of the total public interest charges in the state.

Items not classified elsewhere are put under the classification of *all others*. The annual average amount of such costs was slightly less than 4 million dollars during this period. 63.22 per cent of this was paid by the *State*. Cities paid 25.04 per cent, counties 36 per cent, towns 5.06 per cent, and villages 3.08 per cent.

CHART 4

Percent



An examination of the detailed items making up the most important of these classes of expenses reveals that urbanization multiplies governmental functions. For example, under the heading of *sanitation and the promotion of cleanliness*, neither the *State* nor the county have expenditures of any moment. In towns, this consists of the maintenance of town sewers and accounts for only 1 per cent of their total costs. In the larger villages the disposal of garbage has become a municipal problem and we find that this service amounts to 2.32 per cent of the total village costs. In cities the garbage and sewage problems becomes more complex with the increase of population. Garbage disposal plants must be constructed and garbage collections must be made more regularly and more frequently. The maintenance of public comfort stations is an item of city cost under this function which is not found in towns or villages.

Protection of persons and property is a function that also becomes more extensive in the city than in other municipal units. In addition to the usual items of police and fire protection, included under this head, we find such items as boiler, plumbing and building inspection. And, moreover, if we could look into the various items that make up this amount, we most certainly would find that the nature of the expenses in cities becomes more complex and diverse as the city becomes larger. Such a service, from its character, would naturally fall upon cities most heavily. Large cities offer more opportunities for the criminal and large cities must spend correspondingly more in police protection. The risk of fire is also much greater in cities than elsewhere. Of the sixty million dollars spent per year for *protection of persons and property*, four-fifths was spent by cities.

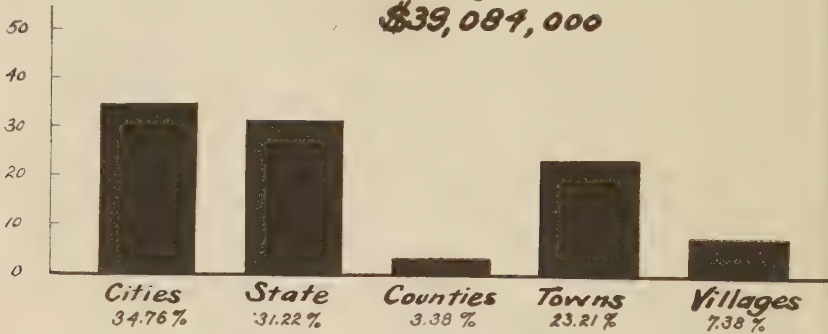
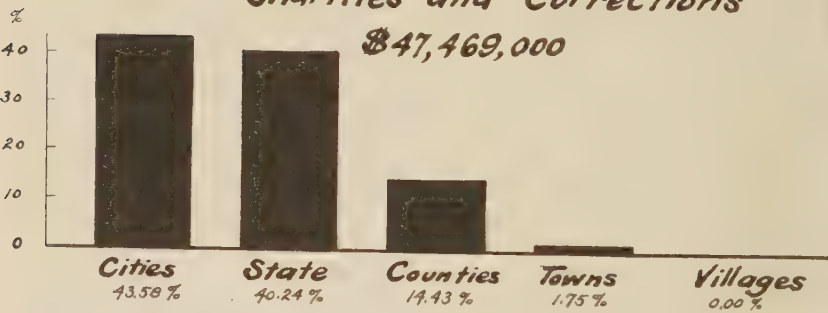
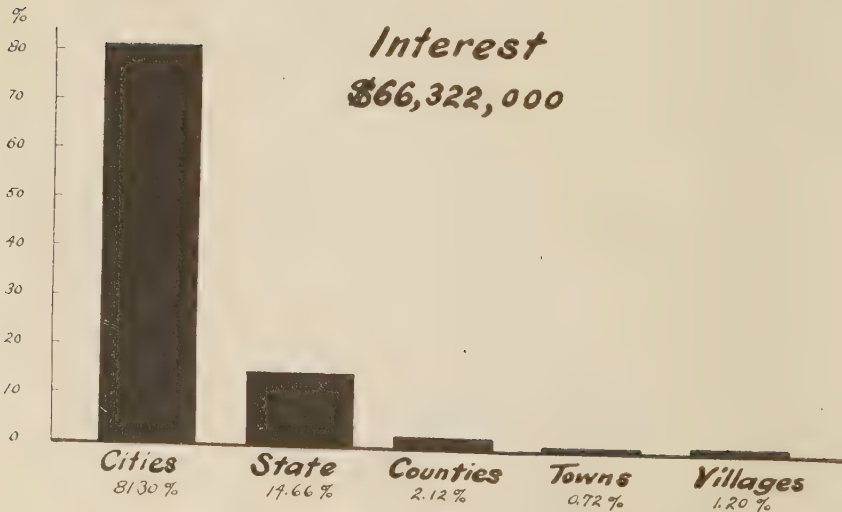
On the other hand, the larger share in the cost of some functions, such as the maintenance of highways, falls more logically to the municipal units with jurisdiction over large areas, i. e., towns, counties, and the *State*. Since the advent of the low-priced automobile, rapid transportation has knit the state into a much closer unit. The responsibility for good roads in the Adirondacks and the Catskills has become a *State* problem. The burden of providing good roads is more willingly shared by the automobile owners from Yonkers and Albany than was formerly the case.

Of course the maintenance of local streets will always remain a function of towns, villages, and cities. The multiplication of functions due to urbanization is evident in this class of expense, too. The expense of sidewalks, street cleaning and the removal of snow and ice assumes important aspects in the cities, but it is of minor importance in the other units.

Charities and correction form a class of expenditures that is rather important for the *State*. Adequate care for the poor, the orphaned, the diseased and the criminal is economical only when these unfortunates are cared for in fairly large numbers. Although they are to be found in all parts of the state, they form a relatively small portion of the population in any place. Except in the

CHART 5

Percent

*Highways**\$39,084,000**Charities and Corrections**\$47,469,000**Interest**\$66,322,000*

larger cities, efficiency and economy dictate that they be cared for largely by the *State* and the county. As a matter of fact, the town is the smallest unit by which this function is undertaken. The village poor are under the jurisdiction of the town overseer of the poor.

The functions performed by the different classes of governmental units are very similar in character. Differences are of degree and extent rather than of kind. For example, in each unit there exists a legislative body: the Senate and Assembly in the State, the Board of Supervisors in the county, the Town Meeting and the Board of Trustees in the village, and the Common Council or Board of Aldermen in the city. Each body is limited in jurisdiction to the boundaries of its respective unit. Each unit has legislative, executive and judicial functions. The general operating expenses of the three departments of government are classified in each administrative unit as the cost of *general government*.

This function absorbs 13.56 per cent¹ of the total annual expenditure of the *State* government.² (See Chart 6) In counties, it amounts to 36.57 per cent.

This is a much larger percentage than in any other unit. There is some slight variation in the relative importance of this function among cities of different classes. It varies between 12.94 per cent and 16.34 per cent. In towns, it amounts to 20.40 per cent and in villages to 11.41 per cent. For the state as a whole 16.53 per cent of the total cost of government is classified as for *general government*.

Protection of persons and property is a class of expense common to all units. In towns, villages, and cities, the cost of fire protection is an item which is not present in the budget of the *State* or county. However, in both of these, other prospective functions, such as those connected with the conservation of fish and game, forests, etc., are present. This function amounts to 15.24 per cent of the *State's* total governmental costs. The cost is comparatively low in counties, amounting to only 5.40 per cent. In towns, it amounts to 4.58 per cent but in villages, it is almost five times as much, 21.20 per cent. In cities, it varies from 24.16 per cent to 30.62 per cent, New York being the lowest with 24.16 per cent, and Buffalo highest with 30.62 per cent. In Rochester *protection* costs almost 26 per cent, in second class cities, 29.8 per cent, and in third class cities only 25.46 per cent. Considering the state as a whole, 20.88 per cent of all government costs goes for this service.

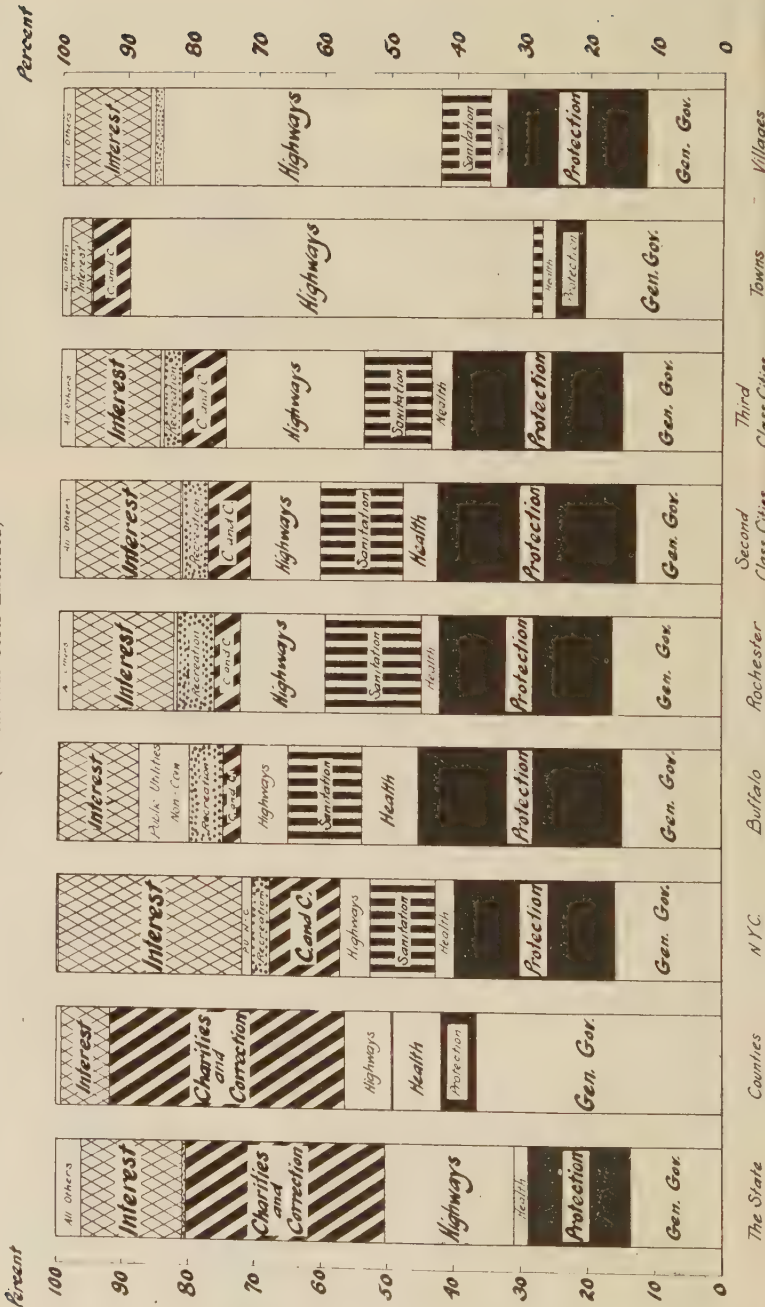
Conservation of health includes the expenses of boards of health the maintenance of tuberculosis hospitals, food and health inspection, etc. It falls lightly upon the *State*. Only 2.14 per cent. of *State* expenditures are of this nature. In counties it is rather more important as many counties maintain hospitals. Forty per cent of

¹ Table XVIII based on the period 1918-1921.

² Exclusive of education. The following figures relate strictly to the cost of governmental administration. Educational costs are treated separately.

CHART 6
Relative Importance of Amounts Spent for Different Purposes by Different Political Units in New York State, 1918-1921

The average annual amounts spent by each unit or class of units are given at the bottom of the chart in millions of dollars (Educational Costs Excluded)



county costs are spent in this way. It amounts to 2.02 per cent in towns and 2.44 per cent in villages. In New York City it amounts to 2.94 per cent, in Buffalo to 8.58 per cent, in Rochester to 2.74 per cent, in second class cities to 5.10 per cent and in third class cities to 3.17 per cent. Of all *State* and local government cost payments, *conservation of health* amounts to 3.33 per cent.

Sanitation and the promotion of cleanliness is a class which includes expenses that are almost entirely due to urbanization. It is of importance only in villages and cities. It consists of garbage removal and the maintenance of sewers and drains. The *State* does not participate in this function at all and the counties' share of this expenditure is almost negligible, being less than one-tenth of one per cent. In towns it amounts to 1.51 per cent, in villages to 7.51 per cent and in cities it varies between 9 per cent and 15 per cent. Taking the aggregate of all governmental expenditures within the state, sanitation accounts for 7.0 per cent of the total.

All of the political units have *highway* expenses, but there is a wide variation in their relative importance. From the standpoint of costs, this is the second most important *State* function. Nineteen and two-tenths per cent of the *State* government cost payments are made for this purpose; counties spend 6.87 per cent in this way. It is also by far the most expensive element of the town and village costs, amounting to 61.18 per cent in towns and 41.95 per cent in villages. In cities the relative amount of this cost is much lower, varying from 4.58 per cent in New York City, to 20.80 per cent in third class cities. For the state as a whole, *highway* costs amount to 12.19 per cent of the entire cost of government.

Charities and corrections is a classification of expenditures including the maintenance of alms houses, orphans' homes, the care of the insane, epileptic and criminal, and assistance given to the poverty stricken. This function falls upon all units except villages. It is most important in the *State* and in the counties, where it constitutes 30.02 per cent and 35.63 per cent respectively of their total costs of government. In towns this item amounts to 5.62 per cent and varies in first class cities, from 2.70 per cent in Buffalo to 10.81 per cent in New York. In cities of the second class it amounts to 6.31 per cent and in cities of the third class to 6.63 per cent. It amounts to 14.81 per cent of the aggregate of *State* and local government costs.

Under the head of *recreation*, expenses incurred in the maintenance of public parks, playgrounds, etc., are reported. Counties and towns have no expenditures of this nature. For the *State*, this item amounts to 0.58 per cent and for the village, to 1.34 per cent. New York City spends 2.5 per cent, Buffalo 5.13 per cent, Rochester 5.82 per cent, second class cities 3.99 per cent, and third class cities 2.75 per cent of their governmental costs for this function. For the state as a whole, this function amounts to 2.08 per cent.

Public utilities—non-commercial is a class of expenditure made chiefly for the maintenance of public docks and the regulation of public markets. It is not found in the *State* nor in counties and

amounts to only 1.24 per cent of the total cost of *State* and local government.

Interest, on the other hand, is an item of expense found in all classes of political units. It includes the charges paid on both temporary and funded debts. For the *State* it amounts to 15.28 per cent, for counties to 7.30 per cent and for towns to 3.21 per cent. Interest amounts to 11.62 per cent of village costs. This item is most important in the cities. In the city of New York it assumes the large proportions of 27.89 per cent. Buffalo spends 12.30 per cent, Rochester 15.70 per cent, cities of the second class 16.22 per cent and cities of the third class 12.98 per cent in this way. For the state as a whole, it amounts to 20.69 per cent of the cost of government.

Miscellaneous expenses not elsewhere classified are grouped under the heading, *all others*. They are relatively negligible, being only 1.25 per cent of the expenditures for the state as a whole.

It is also interesting to observe that a slight change can be noted in the distribution of government expenditures among the different classes of expense. This can be taken to mean a change in the relative importance of government functions. Comparable figures are available since 1918, but even in the short time from 1918 to 1923, it is evident that although all classes of expense are growing, some are growing more rapidly than others.

For example, in 1918, 22.7 per cent of the total amounts spent by all municipal units (except the *State* and first class cities) was spent for *general government*. By 1923 this proportion had dropped to 19.4 per cent. On the other hand, *highways*, the most important function, from the standpoint of costs, accounted for 23 per cent of the total cost in 1918. By 1923 this had increased to 27 per cent. While the absolute costs of *protection of persons and property* and *conservation of health* are much less than this cost, they are growing in importance at about the same rate as *highway* expenses. The other classes of costs show some slight variation in relative importance from year to year but exhibit no definite trend either upward or downward.

The most striking changes have been in counties and towns. In counties, we find that *conservation of health*, which accounted for 5.2 per cent of county costs in 1918 has increased to 9.1 per cent in 1923. At the same time, the importance of county *highway* costs has about trebled from 4.2 per cent to 12.4 per cent. The other change is in the cost of *protection of persons and property* in towns. In 1918 this amounted to 4.6 per cent of the total expenses reported by town government. By 1923 this item had risen in relative importance to 10.9 per cent of total town costs.

AN ANALYSIS OF THE COST OF GOVERNMENT IN THE DIFFERENT MUNICIPAL UNITS ON A PER FAMILY BASIS.

Aggregates showing, for example, the total amounts spent by counties for *highways*, give very little information about the expenses of the individual counties making up that figure. When we

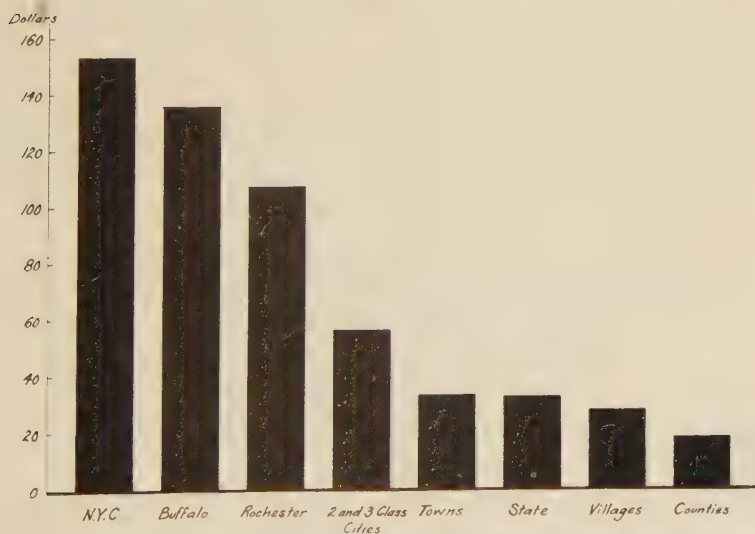
come to examine the expenses of the different municipalities a wide variation at once strikes our attention.* However, when we realize the variation that exists in population, this does not seem strange. We should expect Oswego County to spend more for *charities and corrections* than Hamilton County, as it contains about 18 times as many people as Hamilton contains.

One method of comparing the expenditures of similar units for the same purpose, is afforded by reducing them to a *per capita* or a *per family* basis. In this study, the different governmental costs have been put on the basis of the hypothetical average family of five persons. This figure is more readily interpreted by the average tax payer than the per capita figure. The per capita cost in each case is obviously one-fifth of the per family cost.

The average annual costs for the various governmental functions have been reduced to a per family basis for the *State*, all of the counties, samples of one hundred twelve towns and one hundred villages, and all of the cities. For each type of municipality frequency distributions were constructed based upon the per capita cost of the different functions. See Tables XX, XXI, XXII, XXIII and XXIV in the Appendix. These enable us to measure the central tendency and the variation in each class of expenditure for each type of unit.

Chart 7 is based upon Table XX which summarizes these per family figures. This table gives the values of the lowest, highest, the two quartiles and the median per family cost of each

CHART 7



COMPARISON OF AVERAGE ANNUAL PER FAMILY GOVERNMENT COST PAYMENTS
MADE IN DIFFERENT POLITICAL UNITS — (1918-1921.)

NOTE: The cost for New York City includes the expenses of the counties included within its boundaries. This is not so of other units.

function for each type of political unit. The lowest and highest figures indicate the extreme range of costs. The median, the "middle value," marks the central tendency, and the upper and lower quartiles show the limits within which the middle 50 per cent of the cases fall.

This table shows that city per family costs are highest. The median cost in the second and third class cities is considerably higher than the *State* costs or the median cost in counties, towns or villages. However, the costs in the first class cities are roughly twice as large as in the smaller cities. Although the costs appear greatest in New York City, it must be remembered that New York City costs include in addition to city costs the expenses of the five counties which are included in its boundaries. Such is not the case with any of the other cities.

The per family costs for the different functions of government present a very interesting study. A wide range of variation is found in every case, showing that there is a great difference in the degree to which the different functions have been developed in different municipalities of the same type. A measure of the degree of variation is available in the coefficient of variation. This is obtained by calculating the ratio of the mean deviation (from the mean) to the arithmetic average. This measure has been determined for the total cost of government of counties, towns, villages and cities and is presented in Table II below. When variation is measured in this way, it appears that county and city costs relatively vary much less than do the costs of the other political units. In other words, the costs of the functions performed by counties and by cities are more nearly uniform throughout the state than in the case of towns and villages. Towns exhibit the widest variation.

TABLE II

RELATIVE VARIATION IN THE AVERAGE TOTAL PER FAMILY COST OF GOVERNMENT IN COUNTIES, TOWNS, VILLAGES AND CITIES FOR THE PERIOD 1917-1921.

(School Costs Excluded).

Coefficients of Variation Based upon the Ratio of the Mean Deviation (from the mean) to the Arithmetic Average.

MUNICIPALITY	Number	Coefficient of variation in per cent.
Counties.....	57	23.74
Towns.....	112	37.79
Villages.....	100	36.82
Cities (second and third class).....	56	26.71

Towns: In making this analysis of town costs, it was decided to study a sample of 112 representative towns rather than the entire

group of 932. The towns in the sample were chosen at random, two from each county,¹ one town including one or more villages and one town in which there were no villages. We can feel reasonably sure that this sample represents the conditions in towns throughout the state.²

Total government cost payment. It is extremely interesting to observe the wide variation in the burden of town costs upon the taxpayers living in towns. In those studied, \$5.15 per family was the lowest cost occurring in Green Island,³ a town with 4,441 population. The highest cost of \$109.70 was in Indian Lake with a population of only 1031. On the whole, higher per family costs seem to be found in towns with smaller populations, while the lowest costs occur in the more populous towns.⁴

The reason for this probably lies in the fact that while the smaller towns have been rapidly losing population, it has not been possible to curtail their governmental expenditures proportionately. Consequently, the tendency has been for the costs to weigh more heavily upon the remaining taxpayers. On the other hand, the only increases in population in these towns took place in the larger towns, containing villages.

The movement of the population from the farming districts of the town to the villages does not alter very materially the demands made upon the town administration. It tends to add to the cost of running the village⁵ and as the village population is included within the town, it increases the population of the town tending to make the per capita burden lighter.

In other words, the diminishing population of the rural areas of New York is throwing an added burden upon the population that elects to remain in the rural area, while the increasing population

¹ Only one town was taken from both Nassau County, where all of the towns contain villages, and from Hamilton County, where there are no incorporated villages at all.

² The 112 towns included in the sample range in population from 400 to 20,000. The distribution is as follows:

60 towns with less than 2,000 inhabitants.

31 towns with from 2,000 to 4,000 inhabitants.

13 towns with from 4,000 to 6,000 inhabitants.

8 towns with more than 6,000 inhabitants.

The distribution among counties in relation to the urban or rural character of the population is as follows:

20 from the 10 counties having 75% or greater urban population.

22 from the 11 counties having 50 to 75% urban population.

47 from the 24 counties having 25 to 50% urban population.

23 from the 12 counties having less than 25% urban population.

As among counties that are increasing in population, and those that are decreasing the sample is divided as follows:

49 among the 24 counties which increased in population from 1910 to 1920.

63 among the 32 counties which decreased in population from 1910 to 1920.

³ Green Island village is co-extensive with the town of Green Island.

⁴ The Pearsonian coefficient of correlation between population and total government cost payments per family, in towns under 2,500 in population, was found to be $-.575$.

⁵ This would appear to be substantiated by a coefficient of correlation of $+.570$ between the population of villages under 3,000 and the total government cost payments per family.

of urban centers adds its quota (which is more than proportional to the mere increase in population) to the costs in the village or city involved.

If this movement continues it seems probable that the town as it exists today will either be abandoned or radically changed. In some cases greater economy in administration can be obtained by the consolidation of two or more adjoining towns. In other cases it may be desirable for the county to absorb certain if not all of the functions now performed by the town government.

The analysis of governmental costs in towns on a per family basis is complicated by the fact that about half of the towns are *village* towns, that is, towns which contain one or more villages. A village is a part of the town in which it is situated and villages are taxed for their share of town expenses. On the other hand, the village government is conducted entirely at the expense of village inhabitants, while undoubtedly some village activities are enjoyed to a certain extent by townsmen living outside the village limits. This is so when they "come to town" to market their produce, do their shopping, go to church, or to attend the public ceremonies in the public square. Then, too, the village fire apparatus may be sent, in an emergency, outside of the village and the presence of a village police force and health department gives a certain measure of protection to townsmen.

In any event, the per family cost of town government in village towns is about one-half of what it is in non-village towns. The most important reason for this is undoubtedly the fact that village-towns are larger than the non-village-towns and represent a more economical unit for the administration of this sort of government.

There are four costs that it is interesting to compare in this connection:

1. Village costs
2. Town costs in village-towns
3. The total cost of local government in villages (town costs plus village costs)
4. Town costs in non-village-towns.

To make this comparison, the sample of 112 towns was divided into village-towns¹ and non-village-towns. The 1920 total cost of government of all the villages in these village-towns was ascertained and placed on a per family basis. From the resulting table given below, it is evident by comparing medians and quartiles, that the highest costs for local government are borne by villagers, i. e., village costs plus town costs. The lowest costs are borne by the people who live in village towns but outside of village limits. It costs the inhabitants of the smaller towns, in which there are no villages, nearly as much for their town government as it does a villager for his village government plus his town government. For comparative purposes the costs in second and third class cities are also included in the table below.

¹ Where only part of a village was included the town was rejected.

TABLE III

COMPARISON OF PER FAMILY COSTS OF GOVERNMENT IN TOWNS,
VILLAGES AND CITIES 1920.

	Town costs in towns with villages	Village costs in these towns	Combined town and village costs	Town costs in towns without villages	Second and third class cities
Lower quartile.....	\$16 40	\$21 55	\$48 60	\$37 50	\$50 15
Median.....	24 65	30 40	57 50	48 55	66 30
Upper quartile.....	35 65	37 10	67 10	66 90	89 40

Villages: Of the 473 villages in the state, it was decided to select a representative sample¹ of 100 for a detailed study of their per capita costs for the different governmental functions. With that end in view, one village was chosen at random from each county with the exception of Hamilton and those counties of Greater New York, in which there are no incorporated villages. Additional villages were taken at random to make up the sample of 100. However, no more than two villages were taken from any one county.

This sample of 100 villages includes more than one-fifth of all the villages in the state. It is reasonably certain that the results obtained from the sample are indicative of the situation throughout the state.

Total government cost payments on a per family basis have a very wide variation in villages. They range from \$8.36 in Galway, Saratoga County, a village of 94 inhabitants, to \$105.79 in Southampton, Suffolk County, with 2891 inhabitants. The median is \$27.91 and the two quartiles \$19.73 and \$36.28. There are thirteen villages in which the costs exceed \$46.79 per family. In general, the high costs occur in the large villages.

Cities: From the point of view of the development of governmental functions the city represents the most interesting prob-

¹ The distribution of the sample by population groups is as follows:

- 18 villages of less than 2,000 population.
- 70 villages from 2,000 to 4,000 in population.
- 7 villages from 4,000 to 6,000 in population.
- 2 villages from 6,000 to 8,000 in population.
- 2 villages from 8,000 to 10,000 in population.
- 1 village from 10,000 to 12,000 in population.

As between counties in which the population was to a large extent either urban or rural, the distribution is shown below:

- 16 villages from 10 counties having 75% or greater urban population.
- 20 villages from 11 counties having 50 to 75% urban population.
- 42 villages from 24 counties having 25 to 50% urban population.
- 22 villages from 12 counties having 25% or less urban population.

The distribution among counties showing an increase in population in 1920 over 1910, and those showing a decrease is as follows:

- 43 villages were taken from the 25 counties showing an increase.
- 57 villages were taken from the 32 counties showing a decrease.

lems. Also from the standpoint of cost of government and number of people affected, the city stands foremost. In 1920 there were fifty-nine cities in New York State. Four out of every five inhabitants in the state were then living in cities. Moreover, as is pointed out elsewhere, the increase in population in the state has been entirely absorbed by cities.

*Total government cost payments.*¹ As one might expect, the total governmental expenses in the cities is much higher on a per family basis than in any of the other political units. Costs range from \$14.33 to \$151.56 with the great majority of cities varying between \$30.00 and \$100.00. New York City² heads the list with a cost of \$151.56. Then follows Buffalo with \$136.06, Yonkers with \$121.99, New Rochelle with \$115.09, and Rochester with \$107.74 per family.

The State: For purposes of comparisons, it is interesting to put the average annual costs of the *State* government on the same basis, i. e., the cost to the average family of five persons. Exclusive of the cost of *education*, which is treated separately, the *State* government costs the average family \$30.64 per year. Of this, general government accounts for \$4.16, protection of persons and property \$3.26, development and conservation of natural resources, \$1.41; conservation of health and sanitation, \$.66, highways, \$5.87, charities, hospitals and corrections \$9.20, recreation \$.18, interest \$4.68, and miscellaneous items \$1.22.

Education: The total cost of education in the state as a whole amounted to an average of \$102,700,000 per year for the period 1918-1921 inclusive. About 20 per cent of this amount represents money collected by the *State* and distributed through the counties to the ten thousand school districts in the state. The balance of the cost of education is raised in the individual school districts by levying taxes upon property located within their boundaries.

On a per family basis, the total annual cost of education amounts to \$49.44.

Summary: One thing that stands out in this analysis is the wide variation of the costs in similar units. In counties, the variation is from \$10 to \$57, in towns from \$5 to \$110, in villages from \$8 to \$106, and in cities from \$14 to \$136.³ When consideration is limited to the middle 50 per cent of each group, the central tendency becomes more evident although there is considerable difference between the upper and lower quartiles in each case.

This suggests a comparison between the total average per family cost in cities, towns and villages. In the rural areas, the towns and

¹ The expenses of running the schools are not included. Educational costs as reported in city budgets are not comparable in the different cities. Some cities run and pay for their schools. In other cities, the educational costs are met by school boards, and are not reported as a cost by the city government.

² It must be remembered that the costs for New York City include the expenses of the five counties that are co-extensive with the five boroughs of the city. This is not true of any of the other cities.

³ Excluding New York City.

villages together perform the strictly local governmental functions, which in urban centers are performed by the city government.

The total per family costs of second and third class city governments were calculated for the year 1920. These were arranged in the form of a frequency distribution and the median and quartiles located. Referring to the table on page 41 we see that the tendency is for per family city costs to be much higher than either the village costs plus the town costs (in village towns) or the town costs alone (in non-village towns).

An indication is here evident that *the cost of government to the average tax payer increases with the size of the place in which he lives*. It is the purpose of the following sections of this paper to study this phenomenon. What is the distribution of population in New York State? What changes are taking place in population? How is population related to governmental costs? As the population increases what happens to the cost to the tax payer? As the population increases what happens to property valuation, the tax base? What is the relation between the size of the population of a given municipality and the incomes of its inhabitants? These questions suggest the reasons for making the following studies.

III. THE POPULATION OF NEW YORK STATE, ITS DISTRIBUTION AND MOVEMENT

New York State is the most populous of our states. In 1920, its inhabitants numbered 10,385,000. Over half of these were living in the city of Greater New York. The rest were scattered in fifty-seven counties throughout the state. Seventeen and three tenths per cent of the population was classified as "rural," that is, as living in "places with populations of 2,500 or less."

The fifty-seven counties outside New York City vary in population from 4,000 to 635,000. There are thirty counties with populations under 50,000; thirteen between 50,000 and 100,000; ten between 100,000 and 200,000 and four with populations greater than 200,000.

There are four counties in which the population is 100 per cent rural. That is, these counties contain no incorporated places with populations as large as 2,500. On the other hand, the five counties of Greater New York may be said to be 100 per cent urban. In fifteen counties the population is from 75 per cent to 100 per cent urban; in eleven counties from 50 per cent to 75 per cent urban; in twenty-four counties from 25 per cent to 50 per cent urban and in twelve counties less than 25 per cent urban.

Over 8,000,000 people (78 per cent of the population of the state) live in cities. The remainder, 2,300,000 live in towns, and of this number 854,000 dwell in villages.

So much for the distribution of population in 1920. However, it is in the movements, the flux, the increase and decrease of population that particular interest lies.

From 1790 to 1920 the population of the state increased from 340,000 to 10,385,000. The increase from 1900 to 1910 was 25.4 per cent and from 1910 to 1920, 14.0 per cent. However, a single figure showing the increase for the state is misleading, in one way, as it hides very important movements of population, increases and decreases, in the minor municipal units within the state. For example, it is surprising to learn that although the state as a whole increased 14 per cent, yet over half of the counties actually lost between 1910 and 1920. The losses range from 0.9 per cent to as much as 26.3 per cent. The gains in the other counties were sufficiently large to cover up these losses and show a net gain for the entire state.

Chart 8 shows the importance of losses and gains in the different counties.

It is interesting to observe that cities are located in almost all the counties that show increases in population, and conversely, only a few of those counties that decreased in population contain cities.

A further study of the thirty-two counties that suffered losses in population between 1910 and 1920, shows that in thirteen cases there were also losses between 1900 and 1910 and that *ten counties have been steadily losing population since 1890*. These ten counties, Allegany, Chenango, Greene, Lewis, Otsego, Schoharie, Schuyler, Seneca, Tioga, and Yates, representing roughly one-seventh of the area of the state, have decreased steadily from a total population of 318,319 in 1890; 304,961 in 1900; 288,363 in 1910; to 267,500 in 1920.

When attention is directed to the increase or decrease in population in the different classes of political units, the change that is taking place in the character of the population is still more striking. As is shown in the table below, it is the smaller counties that are losing inhabitants while the larger counties are gaining. Of the thirty counties under 50,000 population, only five show increases from 1910 to 1920, and of the thirteen between 50,000 and 100,000, seven show increases. There are eighteen counties with more than 100,000 inhabitants each. Increases were recorded in all

TABLE IV.

THE NUMBER OF COUNTIES THAT INCREASED OR DECREASED IN POPULATION BETWEEN 1910 AND 1920 CLASSIFIED BY SIZE IN 1920.

Change in population 1910-1920	POPULATION CLASSES					
	Under 50,000	50,000 to 99,999	100,000 to 149,999	150,000 to 199,999	200,000 and over	Total ¹
Decreased	25	6	1	0	1 (N.Y.)	33
Increased	5	7	8	2	6	28

¹ Bronx county not enumerated separately in 1910.

but two of these. Evidently, the larger counties are absorbing the increment in the state's population while the smaller counties are actually losing. It seems quite likely that some of the population of the smaller counties is finding its way into the larger counties and probably into the cities located in the larger counties. One of the purposes of this investigation will be to study the effect of this population flux upon the cost of government, the valuation of real property and net taxable income.

Within the county there are movements of the population that have important bearing on this study. Increases and decreases in the number of inhabitants within a given administrative area affect not only the numbers of tax payers but property values and the demands for governmental service. Many writers have called attention to the movement to the city. It is a phenomenon of the modern age that is rapidly assuming tremendous proportions. The attractions of the city act as a magnetic force, persistently drawing people away from the rural areas toward the centers of population.

Indeed, the evidence presented in this chapter shows that this force of attraction seems to be present even in the smaller cities and in the larger villages. Villages are gaining more rapidly than the strictly rural areas, larger villages are gaining more rapidly than the smaller villages and cities gaining more rapidly than any of the other units.

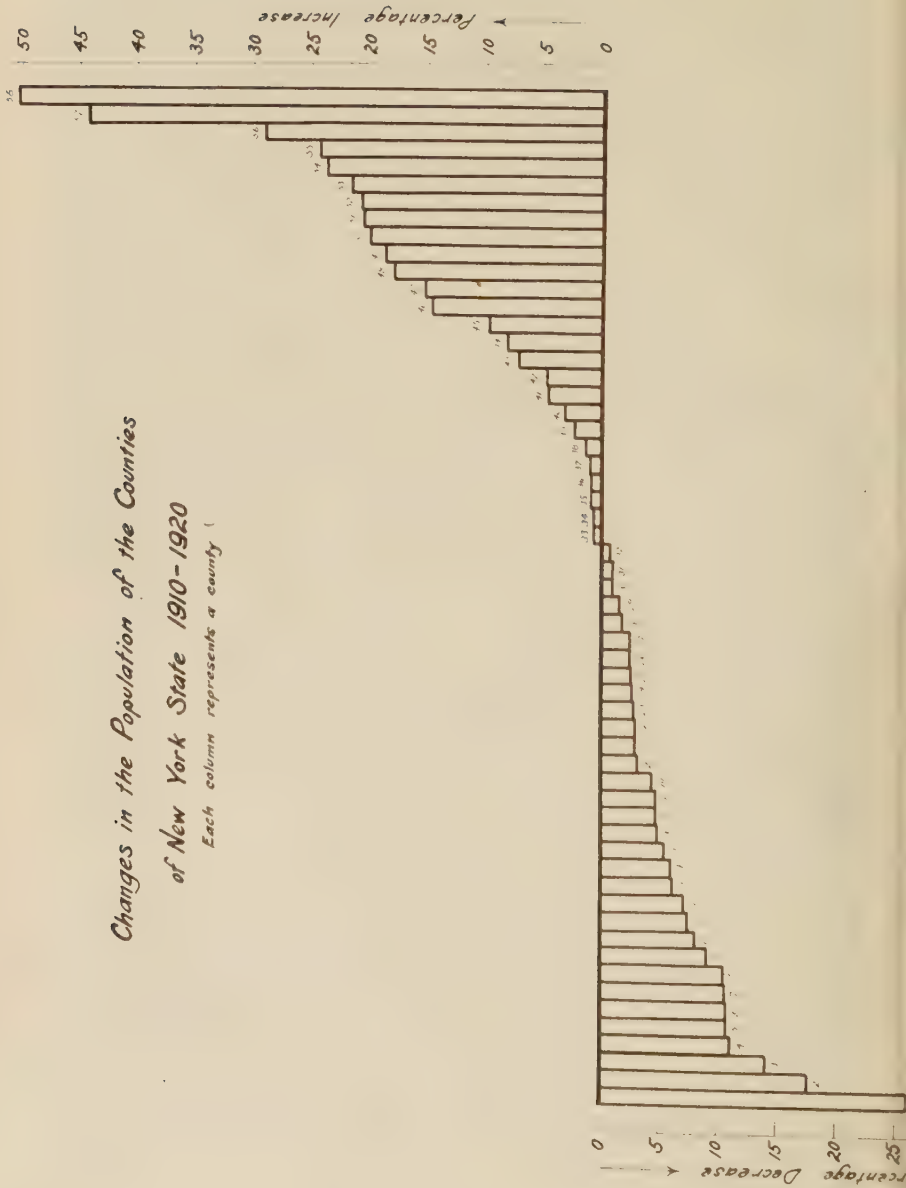
For example, in Broome county, where the total population increased 44.2 per cent from 1910 to 1920, the populations of six out of eight villages decreased. Of ten towns containing no incorporated villages, the populations in six decreased.

This movement is still more pronounced in a county like Allegany that decreased 14 per cent in the decade. Nine villages out of eleven decreased and the populations of the towns in which these villages were located (i.e., the population outside of the village limits) decreased in every case. In addition there were eighteen towns containing no villages. In every one, the population decreased.

An analysis of all of the villages in the state that were in existence in 1910, clearly reveals the tendency of the larger municipalities to increase in population and the smaller municipalities to decrease in population. Chart 9 shows that of 191 villages under 1,000 in population in 1920, *70 per cent lost inhabitants between 1910 and 1920*. Of 107 villages with populations between 1,000 and 2,000, fifty-seven increased. There were 139 villages with populations larger than 2,000 in 1920; *75 per cent of these gained in population*.

Clearly the tendency is for population to move away from the smaller units. The probable social and economic effects of this movement present a subject for study and speculation.

Each column represents a county (



Number	County	Percentage increase or decrease	Number	County	Percentage increase or decrease
1	Putnam.....	-26.0	30	St. Lawrence.....	-1.0
2	Ulster.....	-17.6	31	Hamilton.....	-1.0
3	Greene.....	-14.0	32	Oswego.....	-.8
4	Allegany.....	-11.0	33	Ontario.....	+7.7
5	Columbia.....	-10.7	34	Montgomery.....	+7.7
6	Yates.....	-10.7	35	Madison.....	+9.9
7	Orleans.....	-10.6	36	Genesee.....	+9.9
8	Schoharie.....	-10.5	37	Fulton.....	+1.0
9	Clinton.....	-9.1	38	Cortland.....	+1.3
10	Seneca.....	-8.1	39	Jefferson.....	+2.3
11	Rensselaer.....	-7.4	40	Orange.....	+3.2
12	Schuyler.....	-7.1	41	Dutchess.....	+4.6
13	Delaware.....	-6.1	42	Tompkins.....	+4.7
14	Washington.....	-6.0	43	Albany.....	+7.1
15	Tioga.....	-5.4	44	Cattaraugus.....	+8.1
16	Franklin.....	-4.8	45	Chautauqua.....	+9.7
17	Essex.....	-4.7	46	Suffolk.....	+14.6
18	Wyoming.....	-4.7	47	Herkimer.....	+15.2
19	Lewis.....	-4.4	48	New York (Greater).....	+17.8
20	Steuben.....	-3.2	49	Oneida.....	+18.6
21	Livingston.....	-3.0	50	Erie.....	+19.9
22	Saratoga.....	-3.0	51	Chemung.....	+20.5
23	Cayuga.....	-2.8	52	Onondaga.....	+20.6
24	Rockland.....	-2.7	53	Westchester.....	+21.6
25	Wayne.....	-2.6	54	Schenectady.....	+23.7
26	Otsego.....	-2.0	55	Monroe.....	+24.3
27	Sullivan.....	-2.0	56	Niagara.....	+29.0
28	Warren.....	-1.8	57	Broome.....	+44.1
29	Chenango.....	-1.6	58	Nassau.....	+50.2

CHART 9

*Population Changes in Villages
Classified according to Size
1910 - 1920*

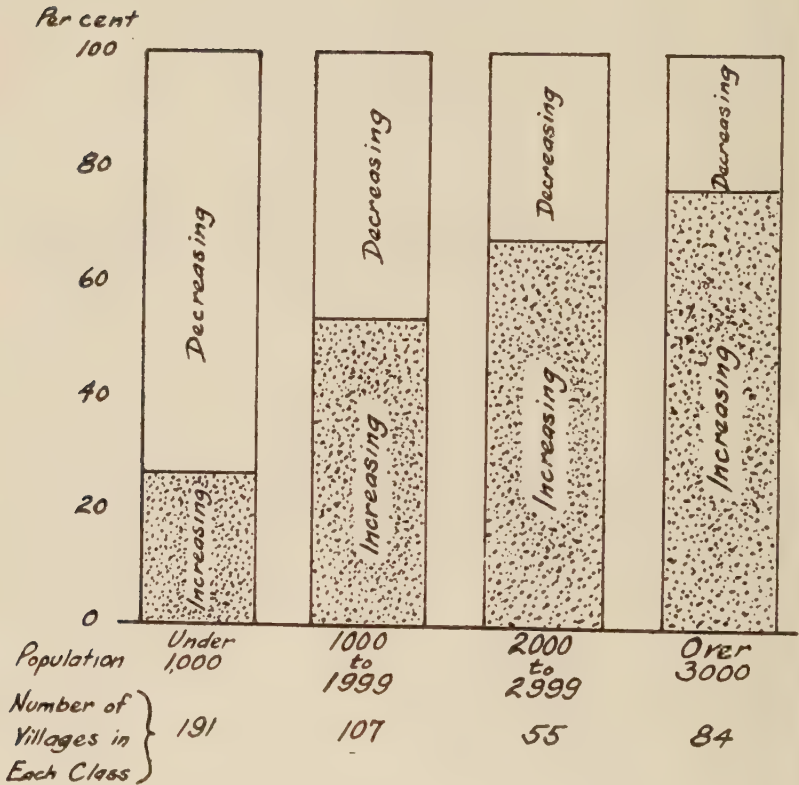


TABLE VI.

THE NUMBER OF VILLAGES THAT INCREASED OR DECREASED IN POPULATION BETWEEN 1910 AND 1920 CLASSIFIED BY SIZE IN 1920.

Change in population 1910-1920	POPULATION CLASSES						
	Under 1,000	1,000 to 1,999	2,000 to 2,999	3,000 to 3,999	4,000 to 4,999	5,000 and over	Total
Decreased.....	134	50	18	4	8	4	218
Increased.....	57	57	37	26	16	26	219

Moreover, the cities seem to exert the strongest pull of all. The total increase in fifty-three cities¹ was greater than the increase registered by the state as a whole. In other words, 53 cities in New York State gained 1,275,421, while the rest of the state lost 3,808.

Such being the case, what are the results of this movement of population? What effect does it have upon the cost of government? What effect does it have upon property values? Governmental expenditures are, in a large measure, met by taxes levied upon property values. Moreover, it seems likely that the expenditures of the smaller municipal units cannot be cut down as population dwindles. If this is so, there may result a growing per capita cost in such units in which the population is dwindling.

IV. THE INFLUENCE OF POPULATION UPON THE COST OF GOVERNMENT IN NEW YORK STATE

The first problem to be approached will be that of measuring the relationship between population and the cost of the various governmental functions in the different political units. An attempt will be made to determine to what extent an increase in population results in an increase in the per family cost of government or, in other words, to what extent higher per family costs are found in the larger political units.

There are two possible ways of going about this. First, the relationship between the growth of governmental costs and the growth of population for particular municipal units over a period of years might be studied. There are several objections to this procedure. To begin with, comparable population figures are to be had only for census years. Important changes in population may take place between these periods. A still greater objection lies in the fact that there are factors other than population that have been at work increasing the cost of government. As was pointed out in Section I the rise in the general price level has caused a very considerable increase in the cost of government. The development of civilization, the spread of democracy and changes in ideas of the function of government have all had their effect upon the cost of government. Therefore, to study the relationship between the growth of population and the increase in the cost of government over a

¹ 1920. Population of 59 cities.....	8,082,735	
Less the population of Sherrill and Glen Cove not reported in 1910.....	10,425	
	8,072,310	
1910. Population of the same 57 cities.....	6,804,964	
A net increase of.....		1,267,346
53 cities increased	1,275,421	
4 cities decreased	8,075	
A net increase of.....		1,267,346

period of time, it would be necessary to make adjustments for these other factors, many of which are incapable of expression in quantitative form. Therefore, except as a very general method of comparing the two, it is evident that this approach to the problem is not entirely satisfactory.

The second method that might be employed in studying the influence of population upon the cost of government is afforded by the Pearsonian method of correlation. By this method a cross-section of the state is taken at a particular time, for instance, at the census year 1920, and the relationship between the two factors, population and cost of government studied in the different political units in question. In this way the effect of a changing price level, the development of civilization and the changes in our attitude toward government are all eliminated. The assumption is made that, at this particular time, these influences work in the same way throughout the state. As observations relate to values taken at the same time this assumption is not unreasonable. In this way attention is focused upon the manner in which a large population occurs in connection with high per family costs of government and vice versa, a small population with low per family costs of government. Therefore, it was decided to use the method of correlation in studying the influence of population upon the costs of government in the different political units. Per family costs for the most important governmental services were correlated with the population of the respective units in which these costs were incurred. This was done in the case of counties, cities, a sample of 112 towns and a sample of 100 villages.

A positive coefficient of correlation indicates that it costs, on a per family basis, more for the administration of government in places with large populations than it does in places with small populations. A negative coefficient indicates the reverse. The size of the coefficient is also important. Zero indicates that there is no evident relationship between the two factors. Plus 1 indicates a perfect positive relationship, or in other words, that all of the variations occurring in per family cost of government are due to variations in population and that the higher per family costs occur in the municipalities having the larger populations, and that lower per family costs occur in the municipalities with the smaller populations. Minus 1 would indicate a perfect negative relationship, or in other words, that the variations in per family cost of government are entirely due to the variations in population and that the smaller costs occur in the larger municipal units and higher costs occur in the smaller municipal units. The coefficient of correlation, indicated by the letter "r," is an abstract measure of the degree of relationship between the two factors in question.

Table VII is a condensed correlation table. It shows the fifty-seven counties in New York State cross-classified according to population and the total per family cost of county government. The population is that of the federal census of 1920. The cost of government figures are the average costs for the five year period, 1917

to 1921. This table helps to visualize the correlation existing between population and total per family costs of government. It is evident that there is considerable variation in costs. The correlation for the entire group is almost negligible due to the fact that both the extremely small and the extremely large counties have relatively high per family costs while the lowest costs are enjoyed by the medium sized counties. When counties are divided into groups based upon population it becomes evident that for the forty-two counties under 90,000 in population the tendency is for costs to be *lower* as the population of the county becomes *larger*. Beyond this point higher costs are associated with the more populous counties, the larger the county the higher the cost. The scattering in this table would seem to indicate that county administration is most economical where the population of the county is somewhere between 75,000 and 100,000.¹

TABLE VII.

57 COUNTIES CROSS-CLASSIFIED ACCORDING TO POPULATION AND COST OF COUNTY GOVERNMENT ON A PER FAMILY BASIS.
(AVERAGE COSTS 1917-1921, POPULATION 1920)

CLASSES		POPULATION						Total in each class
		Under 25,000	25,000 to 49,999	50,000 to 74,999	75,000 to 99,999	100,000 to 124,999	125,000 and over	
Per Family Annual Cost of County Government	\$56 00 to \$57 99	1						1
	40 00 to 41 99						1	1
	38 00 to 39 99							
	36 00 to 37 99							
	34 00 to 35 99							
	32 00 to 33 99	1						1
	30 00 to 31 99							
	28 00 to 29 99							
	26 00 to 27 99		1				1	2
	24 00 to 25 99		3			1	2	6
	22 00 to 23 99		1					1
	20 00 to 21 99	1	4	1		1		7
	18 00 to 19 99	1	1	3			3	8
	16 00 to 17 99	1	4	2		2		9
	14 00 to 15 99	2	7	2	2	2		15
	12 00 to 13 99	1	1	1	1			4
	10 00 to 11 99					1		1
	8 00 to 9 99				1			1
Total in each class		8	22	9	4	7	7	57

Similarly, cross-classification tables might be constructed to show the influence of the size of the population upon per family cost for

¹ The median per family cost of county government is \$15.51 for counties between 50,000 and 100,000; \$19.88 for counties under 50,000, and \$19.68 for counties over 100,000 in population.

each important government function. In fact such tables were constructed as a step in the correlation process. Limitations of space make it inexpedient to reproduce them here. The table below summarizes the results of this study on county costs.

TABLE VIII.
COEFFICIENTS OF CORRELATION FOR POPULATION AND PER FAMILY
COSTS OF COUNTY GOVERNMENT

CLASSIFICATION OF COUNTIES POPULATION	Number of counties	Total govern- ment costs	General govern- ment	Protec- tion	Health	Highways	Charities and correction
All.....	57	.040	— .170	.047	.098	.032	.307
Above 90,000.....	15	*	*	*	*	*	.656
Below 90,000.....	42	— .283	— .452	— .432	.472	*	— .417
Below 120,000.....	50	— .331	— .435	— .175	.450	*	— .239

* Not calculated. The computation of the coefficient of correlation was only attempted when a study of the scatter diagram gave evidence of the desirability of such calculation.

For total costs, the coefficients bear out the conclusions previously stated. Namely, that county government is most economically administered where the population is of medium size. In the case of *general government*, the relation is inverse throughout but more pronounced among the smaller counties. The larger the population the less it costs the average family for this service. *Protection* of persons and property also indicates very little relationship for the group as a whole. However, when counties under 90,000 are considered, the relationship is greater and negative. Among these counties, the smaller the population the greater per family cost for protection. The analysis of the cost of the *conservation of health* gives the only consistently positive correlations found in counties. For counties as a whole, the coefficient is negligible but when the smaller counties are considered alone it is quite evident that the administration of this function costs more as the population increases. *Charities and corrections* gives the highest coefficient of correlation for the entire group of counties. Even this is so small as to indicate very little. However, the cost of this function correlated with the populations of the fifteen largest counties gives very good evidence of positive relationship. When attention is concentrated upon the counties under 90,000 in population, the evidence is that the relationship is negative. For the forty-two smaller counties, the smaller the county the greater the cost, while for the fifteen larger counties, the larger the county the greater the cost.

With the exception of the cost of *conservation of health*, this analysis indicates that these governmental functions would be more economically administered if the administrative areas were altered so that they would contain not more than 125,000, nor less than 75,000 inhabitants. This would mean the union of a number of the

smaller counties and the creation of new ones. It would probably be desirable to make the larger cities independent counties.

Towns were subjected to the same analysis. The 112 towns were grouped into such classes as would throw light upon the effect of town population upon the costs of the various town functions. The results of the calculations are summarized in the following table.

TABLE IX.

COEFFICIENTS OF CORRELATION FOR POPULATION AND PER FAMILY COSTS OF TOWN GOVERNMENT.

CLASSIFICATION OF TOWNS BY POPULATION	Number of towns	Total government cost	General government	Protection	Health	Highways	Charities and corrections
All.....	112	†—.531	.0002	*—, 184	†—, 387	—, 484	.256
Above 2000.....	52	*—, 345	(a)	(a)	(a)	(a)	(a)
Above 2500.....	42	(a)	(a)	(a)	(a)	(a)	.268
Below 2500.....	70	—, 575	—, 297	(a)	(a)	(a)	.099
Below 4500.....	96	(a)	(a)	(a)	(a)	—, 633	(a)
Below 6000.....	101	(a)	—, 254	.168	†—, 367	—, 620	.210

* Oyster Bay excluded.

† Oyster Bay, Bolton and Caldwell excluded.

‡ Oyster Bay, Ossining, Ramapo, and German Flats excluded.

(a) Not calculated. Preliminary study indicated that additional grouping was not warranted

The most interesting result obtained here is the fairly high negative correlation between population and *total government cost payments* in the 108 towns under 11,000 in population. This would seem to bear out our previous observation (see p. 41) that in small towns, the majority of which were losing in population, were operating their governments at much higher per family costs than the larger towns. This indicates also that the smaller the town is, the higher the cost will be.

The costs of *general government*, *health*, and *highways*, all exhibit the same tendency for the higher per family costs to occur in the smaller towns. The costs for two functions, *protection* and *charities* show very slight tendencies in the other directions, i. e., for higher per capital costs to occur where population is larger.

This would seem to indicate that something could be gained in economy if adjacent smaller towns could be consolidated for the purposes of governmental administration.

To throw some light upon the effect of the location of a village within a town upon the cost of town government, the 112 towns were divided into two groups, one containing the fifty-six village towns, the other the fifty-six non-village towns. Each group was cross-classified according to population and total per family *government cost payments* with the results shown below in Tables X and XI. Although there is some variation, the general tendency for the lowest costs to occur in the largest town is very evident in both tables.

In non-village towns there seems to be no break in this tendency. The most expensive town governments are in the smallest towns and the smaller the town the more expensive it is.

Village-towns exhibit less "scatter" than do those containing no villages. Their costs, also, are notably smaller.¹ A tendency is also noticeable for the downward drift to hesitate for towns between 2,500 and 3,000 and again for towns larger than 4,500. The indications are that probably the population for which town government is most economically administered is somewhere between 3,500 and 5,000.

The cross-classification of the sample of 100 villages is presented in Table XII. It reveals an unmistakable upward drift—the exact opposite of the case of towns. The larger the village the higher the per family costs. There is some evidence of a maximum when villages reach a population of 2,000 or possibly a little more.² Beyond this it appears that per family costs tend to decrease slightly. This is borne out by the decrease in the coefficient of correlation from .570 to .296 when all the villages above 3,000 are included.

TABLE X.

56 NON-VILLAGE TOWNS, CROSS-CLASSIFIED ACCORDING TO POPULATION AND COST OF TOWN GOVERNMENT ON A PER FAMILY BASIS.
(Average costs 1917-1921, Population 1920.)

CLASSES		POPULATION							Total in each class
		Under 500	500 to 749	750 to 999	1000 to 1249	1250 to 1499	1500 to 1999	2000 and over	
Per Family Annual Cost of Town Gov't.	\$100 and over.....	.....	.....	.....	1	.....	.....	.....	1
	96 00 to \$99 99.....	.....	.....	.....	.....	.....	.....	.....	.....
	92 00 to 95 99.....	1	.....	.....	.....	.....	.....	.....	1
	88 00 to 91 99.....	.....	.....	.....	.....	.....	.....	.....	.....
	84 00 to 87 99.....	1	.....	.....	1	.....	.....	.....	2
	80 00 to 83 99.....	.....	.....	.....	.....	.....	.....	.....	.....
	76 00 to 79 99.....	.....	2	.....	.....	.....	.....	.....	.....
	72 00 to 75 99.....	.....	.....	.....	.....	.....	.....	1	3
	68 00 to 71 99.....	.....	.....	.....	.....	.....	.....	.....	.....
	64 00 to 67 99.....	.....	.....	.....	.....	.....	.....	.....	.....
	60 00 to 63 99.....	1	1	.....	.....	.....	.....	1	3
	56 00 to 59 99.....	.....	2	2	1	.....	.....	.....	5
	52 00 to 55 99.....	1	.....	.....	.....	.....	.....	.....	1
	48 00 to 51 99.....	.....	3	.....	2	.....	1	.....	6
	44 00 to 47 99.....	.....	2	.....	1	.....	.....	.....	4
	40 00 to 43 99.....	1	.....	1	2	.....	1	.....	5
	36 00 to 39 99.....	1	.....	2	2	.....	2	2	9
	32 00 to 35 99.....	.....	.....	2	2	1	2	1	8
	28 00 to 31 99.....	.....	.....	.....	.....	1	2	1	4
	24 00 to 27 99.....	.....	.....	.....	1	.....	.....	1	2
	20 00 to 23 99.....	.....	.....	.....	.....	.....	1	.....	1
	16 00 to 19 99.....	.....	.....	.....	.....	.....	.....	1	1
Total in each class.		6	10	7	13	2	10	8	56

¹ Average (median) per family costs of town government (Average 1917-1921):

Village-towns—

Under 2,500 in population..... \$29 13

Over 2,500 in population..... 22 11

Non-village towns—

Under 1,500 in population..... \$47 77

Over 1,500 in population..... 35 19

² Average (median) per family cost of village government:

Above 3,000 in population..... \$33 86

From 2,000 to 3,000 in population..... 37 25

From 1,000 to 2,000 in population..... 29 58

Under 1,000 in population..... 21 10

TABLE XI

56 VILLAGE-TOWNS, CROSS-CLASSIFIED ACCORDING TO POPULATION
AND COST OF TOWN GOVERNMENT ON A PER FAMILY BASIS
(Average Costs 1917-1921, Population 1920)

CLASSES		POPULATION								Total in each class
		Under 1500	1500 to 1999	2000 to 2499	2500 to 2999	3000 to 3499	3500 to 3999	4000 to 4499	4500 and over	
Per Family Annual Cost of Town Government	\$60 00 to \$63 99.....	1	.....	1	.....	.....	.....	.....	.....	2
	56 00 to 59 99.....	.....	.....	.....	.....	.....	.....	.....	1	1
	52 00 to 55 99.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	48 00 to 51 99.....	1	.....	.....	.....	.....	.....	.....	.....	1
	44 00 to 47 99.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	40 00 to 43 99.....	1	.....	.....	.....	.....	.....	.....	.....	1
	36 00 to 39 99.....	1	.....	.....	1	1	.....	.....	.....	3
	32 00 to 35 99.....	1	.....	1	2	.....	.....	.....	.....	4
	28 00 to 31 99.....	1	2	1	2	1	.....	.....	.....	7
	24 00 to 27 99.....	.....	2	3	1	.....	.....	.....	2	8
	20 00 to 23 99.....	.....	2	2	1	4	.....	.....	6	15
	16 00 to 19 99.....	.....	.....	1	.....	1	1	2	3	8
	12 00 to 15 99.....	.....	.....	.....	.....	.....	1	.....	3	4
	8 00 to 11 99.....	.....	.....	.....	.....	.....	.....	.....	1	1
	4 00 to 7 99.....	.....	.....	.....	.....	.....	.....	1	.....	1
Total in each class..		6	6	9	7	7	2	3	16	56

TABLE XII

100 VILLAGES, CROSS-CLASSIFIED ACCORDING TO POPULATION AND
COST OF VILLAGE GOVERNMENT ON A PER FAMILY BASIS
(Average Costs 1917-1921, Population 1920)

CLASSES		POPULATION							Total in each class
		Under 500	500 to 999	1000 to 1499	1500 to 1999	2000 to 2499	2500 to 2999	3000 and over	
Per Family Annual Cost of Village Government	\$64 00 and over.....	.....	.....	.....	.....	1	2	.....	3
	60 00 to \$63 99.....	.....	2	.....	1	.....	1	.....	4
	56 00 to 59 99.....	.....	.....	.....	.....	.....	.....	1	1
	52 00 to 55 99.....	.....	2	.....	.....	.....	.....	.....	2
	48 00 to 51 99.....	.....	1	.....	1	.....	.....	.....	2
	44 00 to 47 99.....	.....	.....	.....	.....	.....	1	.....	1
	40 00 to 43 99.....	.....	1	.....	1	.....	.....	.....	1
	36 00 to 39 99.....	.....	.....	1	1	1	3	4	10
	32 00 to 35 99.....	.....	1	3	1	1	.....	4	10
	28 00 to 31 99.....	1	3	2	2	2	1	3	14
	24 00 to 27 99.....	4	4	2	2	2	.....	1	15
	20 00 to 23 99.....	1	5	1	3	.....	.....	.....	10
	16 00 to 19 99.....	7	4	1	1	1	.....	.....	14
	12 00 to 15 99.....	2	3	2	.....	.....	.....	.....	7
	8 00 to 11 99.....	3	1	.....	.....	.....	.....	.....	4
	4 00 to 7 99.....	.....	.....	.....	.....	.....	.....	.....	.....
Total in each class..		18	27	12	13	8	8	14	100

The results of the correlation for village populations and the relative costs of various government functions are tabulated below:

TABLE XIII
COEFFICIENTS OF CORRELATION FOR POPULATION AND PER FAMILY COSTS OF VILLAGE GOVERNMENT

CLASSIFICATION OF VILLAGES BY POPULATION	Number of villages	Total government costs	General government	Protection	Health	Highways
All.....	100	.296	.233	.500	.320	.003
Below 3000.....	86	.570	.353	.504	.328	.249

The notable thing about these figures is that in every case the correlation is positive. In other words, all of the evidence presented here tends to show that the larger the number of people living in a village, the larger will be the per family costs for administering these functions of village government.

In the same manner the per family costs of the 56 second and third class cities were analyzed.¹ Educational costs have been excluded from the *total government cost payments* as they are not comparable for all cities, certain cities maintaining their schools while in others, the schools are operated under the separate financial and administrative authority of a school board. This makes the governmental cost of cities comparable with those of counties, villages and towns.

TABLE XIV
COEFFICIENTS OF CORRELATION FOR POPULATION AND PER FAMILY COSTS OF SECOND AND THIRD CLASS CITY GOVERNMENTS

CLASSIFICATION OF CITIES BY POPULATION	Number of cities	Total government costs	General government	Protection	Sanitation	Health	Charities	Bond interest
All.....	55	.554	.181	.668	.496	.714	.177	.443
Third class cities...	48	.520	(a)	.504	.419	.684	(a)	.385

(a) Not calculated.

The correlations are much higher for cities than for any other unit. Moreover, they are all positive, indicating that, in general, the larger the city the higher the per family cost will be. This seems to be especially so in the case of costs for *conservation of health, protection of persons and property, and sanitation and the promotion of cleanliness.*

¹ Throughout, the city of Sherrill has been omitted. Sherrill, while legally a city, has only about 1700 inhabitants and is still subject to town jurisdiction. Its expenditures correspond more closely to those of the villages of the same size than they do to other cities of the third class.

The total government cost payments, too, exhibit a relationship that is unmistakably upward (see Table XV). The larger the city the more it costs the average family for the administration of government.

TABLE XV

56 SECOND AND THIRD CLASS CITIES, CROSS-CLASSIFIED ACCORDING TO POPULATION AND COST OF CITY GOVERNMENT ON A PER FAMILY BASIS

(Average Costs 1917-1921, Population 1920)

	CLASSES	POPULATION								Total in each class
		Under 10,000	10,000 to 14,999	15,000 to 19,999	20,000 to 24,999	25,000 to 29,999	30,000 to 34,999	35,000 to 39,999	40,000 and over	
Per Family Annual Cost of City Government	\$180 to \$189.....	....	....	....	....	....	....	1	1	2
	170 to 179.....	....	....	....	....	....	....	....	....	1
	160 to 159.....	....	....	....	1	....	....	....	....	1
	150 to 149.....	....	....	....	....	....	....	....	1	1
	140 to 139.....	....	....	....	....	....	....	....	....	....
	130 to 129.....	....	1	....	....	....	....	....	2	3
	120 to 119.....	1	1	....	....	....	....	....	2	4
	110 to 109.....	....	....	1	1	....	1	....	1	4
	100 to 99.....	....	1	....	....	1	....	1	3	6
	90 to 89.....	....	2	1	1	....	....	1	....	5
	80 to 79.....	2	5	2	1	1	2	1	....	14
	70 to 69.....	2	5	1	2	....	....	....	....	10
	60 to 59.....	1	2	2	....	....	....	....	....	5
	50 to 49.....	....	....	1	....	....	....	....	....	1
	Total in each class..	6	16	9	6	2	3	4	10	56

NOTE: School costs have been excluded to make city costs comparable.

THE RELATION BETWEEN POPULATION AND THE TOTAL COST OF ALL LOCAL GOVERNMENTS WITHIN COUNTIES.

This study of government costs in the various municipal units has shown that both in relative and absolute amounts, there are very great variations. In some counties, town costs may be low and county costs high, while in others the situation may be reversed. It is undoubtedly true that the division of functions among the different municipal units is not the same in all counties. This suggested a study of the total cost of all municipal units within the various counties in relation to their respective populations.

Accordingly, a tabulation was made of the total cost of county government and the total government costs of all towns, villages, and cities within each separate county for the year 1920. That is, a figure was determined for each county for the sum total of all the costs of local government (exclusive of education) incurred within the county area.

A preliminary study, by means of a scatter diagram on which population is plotted as the independent variable and total government as the dependent variable, shows that costs may be treated as

a function of population. High costs are found where the population is large and low costs where the population is small. However, the cost of government is not *directly* proportional to the population. If two counties are compared, one twice as large as the other, the costs in the larger will be *more* than twice as large as the costs in the smaller.

This suggested that the law of relationship was of the type

$$y = a x^b$$

In which y represents the cost of local government within the county area and x represents the population of the county. a and b are constants, b indicating the degree to which an increase in population is accompanied by a more than proportional increase in the cost of government. Should the value of b be exactly one, costs would be directly proportional to population and it would cost no more per capita to administer local government in urban areas than it does in rural districts.

In logarithmic form the above equation becomes,

$$\text{Log } y = \text{log } a + b \text{ log } x$$

On double logarithmic paper, such an equation, when plotted forms a straight line. Therefore, an empirical test of the appropriateness of this equation may be made by constructing a scatter diagram on double log paper. A diagram so constructed bears out this conclusion as the dots have a very definite linear drift. (See Chart 10.)

The equation to the average line of relationship describing cost of government as a function of population, determined by the method of least squares, is as follows:

$$y = 0.76980 x^{1.16415}$$

Where x is the total cost of local government in thousands of dollars and y is the population in thousands,

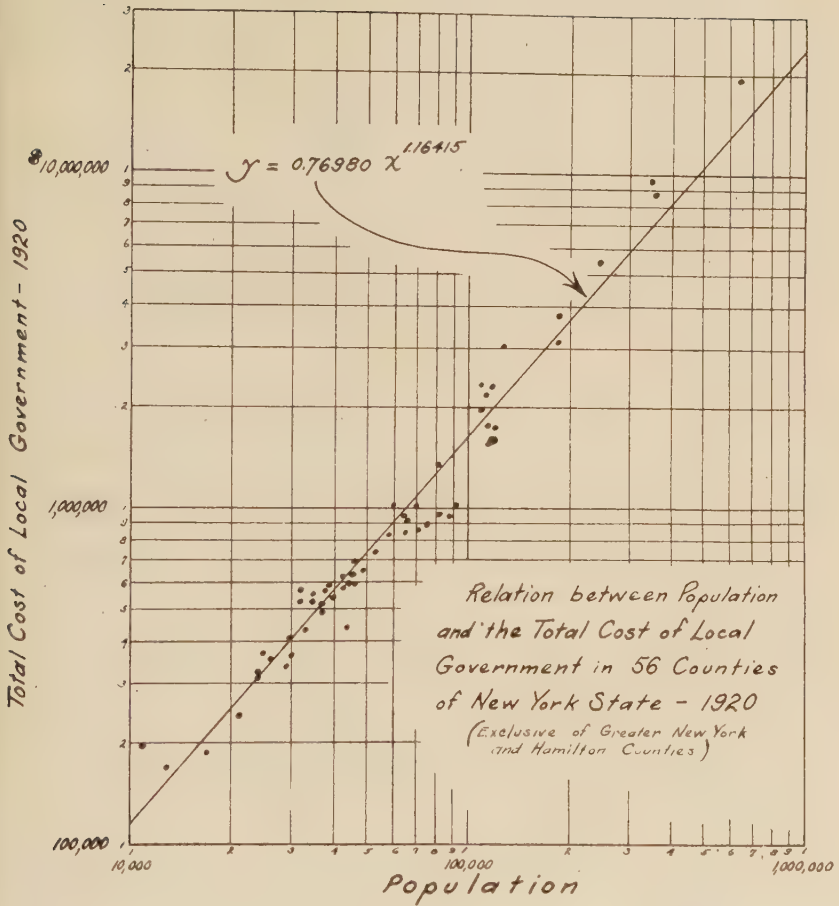
The coefficient of correlation, determined by the least squares method, has a value of $+ .970$ and S_y , the standard error of estimate is 0.10771 in logarithmic form.¹

The significance of these results may be explained as follows: Within the limits studied (Greater New York and Hamilton Counties were not included in the calculations), there is indisputable evidence that the total cost of all local government within the county is a function of the number of people living within the county.² This indicates that if governmental needs be measured by resulting costs, the needs of government are fairly definitely fixed by the size of the population regardless of the particular units that are charged with the administration of those needs. For ex-

¹ For an explanation of the standard error of estimate see *Statistical Methods*, F. C. Mills. Henry Holt and Co. 1924.

² It is of course true that other factors than population affect the cost of government. The character of the population is undoubtedly important as also are the area of the administrative unit, the value of the taxable property, the total income earned within the area and the way that income is distributed among the population.

CHART 10



ample, the needs for highways depends to a large extent upon the number of people who desire to use them. The need is there and if sufficiently great will be met either by towns, villages, or cities acting independently or by the county or State government. In any event the expense is borne by the inhabitants of the county in question. The correlation between population and governmental costs is very high. The relationship is such that costs vary directly as the 1.16415th power of the population multiplied by the constant .76980. As the population of a given area grows, the tendency will be for the cost of government to increase both in absolute and relative amounts. As between counties of different sizes the tendency will be for it to cost more, on a per family basis, in the large counties than in the small counties.

The equation determined above should have some value as a criterion by which to judge whether the cost of government in a particular county is high, low or average in respect to its population. The fact that the cost in a particular county lies above the line, as is the case with Nassau, does not necessarily call for condemnation. It does, however, call for explanation.¹

Another way of approaching this problem was attempted. The total cost of local government in the different municipal units was determined. For instance, the total cost of local government in a village is made up of the village cost, a share of the town cost and a share of the county cost. In a city the costs consist of the city costs plus a share of the county costs, while in a non-village town and in that part of a village-town that lies outside of the village, the costs are made up of a portion of the town costs and a portion of the county costs.²

In the light of the wide variation found in per family costs in the different municipal units, it may be that in counties where city and town expenses are high, county costs are low and vice versa. The same thing may be true in respect to town and village costs. To see just what the situation is a compilation was made of the total per family cost of local government in the 59 cities, 56 villages, and 56 non-village towns for the year 1920. These were cross-classified according to per family costs and population with the results shown in the table below. (Table XVI.)

There are two interesting facts brought out by this table. First there are wide variations in costs in all groups. Some of the extremely small localities have costs as large as those of any but the very largest cities, while some of the medium sized cities have costs much lower than those of the smaller towns.

Evidently some factors³ other than population must be sought for a complete explanation of the variation in relative costs of the different municipal units.

The second interesting fact brought out by this table is seen when attention is focused upon the central tendencies in each group. It appears that communities under 500 in population have a tendency to operate at costs which are higher than the costs of any localities except those containing more than 15,000 inhabitants. The lowest costs are enjoyed by localities between 1,500 and 2,000 in population. Localities between 2,000 and 15,000 have practically the same per family costs, but from 15,000 on, the tendency is for costs to be constantly greater. In this later group, it is evident that as population increases the per family burden also increases.

¹ In a later study the combined influence of area, property valuation, income, and population will be measured.

² The cost of the schools, partly covered by taxes levied by the school districts, and the expenses of the *State* government are not included in the costs analyzed here.

³ Later studies will develop this idea.

TABLE XVI
59 CITIES, 56 VILLAGES AND 56 NON-VILLAGE TOWNS CROSS-CLASSIFIED ACCORDING TO POPULATION
AND THE TOTAL COST OF LOCAL GOVERNMENT IN 1920

CLASSES	POPULATION												Total in each class
	Under 500	500 to 999	1000 to 1499	1500 to 1999	2000 to 2999	3000 to 3999	4000 to 4999	5000 to 9999	10,000 to 14,999	15,000 to 19,999	20,000 to 39,999	40,000 and over	
¹ \$180 and over.....	1	.....	41	.....	81	.....	.....	.....	.....	.....	.....	11	3
170 to 179.....	.....	.....	61	81	.....	.....	.....	.....	.....	.....	.....	.....	2
160 to 169.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	22	1
150 to 159.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3
140 to 149.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	31	.....
130 to 139.....	.....	1	.....	.....	1	.....	.....	.....	3	1	.....	.....	3
120 to 129.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	7
110 to 119.....	1	.....	.....	.....	2	.....	.....	1	.....	.....	.....	.....	9
100 to 109.....	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	9
90 to 99.....	2	1	1	.....	.....	1	.....	.....	2	1	.....	.....	11
80 to 89.....	4	8	3	.....	1	1	.....	1	1	2	2	.....	27
70 to 79.....	2	7	4	2	2	5	3	.....	3	3	5	1	37
60 to 69.....	2	8	6	5	2	3	1	3	4	1	1	.....	33
50 to 59.....	1	4	6	3	2	2	1	.....	2	2	.....	.....	21
40 to 49.....	1	1	.....	1	1	.....	.....	.....	1	.....	.....	.....	5
Total in each class.....	14	33	24	13	12	9	7	6	18	8	14	13	171

¹ Buffalo.

² New York.

³ Rochester.

⁴ Briar Cliff Manor (village).

⁵ Sea Cliff (village).

⁶ Bolton (town).

⁷ Indian Lake (town).

¹ Buffalo. ² New York. ³ Rochester. ⁴ Briar Cliff Manor (village). ⁵ Sea Cliff (village). ⁶ Bolton (town). ⁷ Indian Lake (town).
⁸ Sherrill (city). ⁹ Derring Harbor (village, population 3).

It is not strange to find the costs in New York, Buffalo, and Rochester higher than in any of the other cities. However, it is extremely interesting to see that on this basis, the costs in Buffalo are \$17.00 higher than in the city of New York. On the other hand, it is astonishing to see the extremely high costs that are found in some of the smallest places. Dering Harbor, a village in the town of Shelter Island, Suffolk county, has the highest per capita or per family cost found anywhere. However as its population numbered only three in 1920, the per family figure is scarcely valid. The next highest cost was found in Briar Cliff Manor, a village of 1,027 in the town of Ossining, Westchester county. In 1920 its costs amounted to \$269 per family. Next in order comes Sea Cliff, a village of 2,108 in the town of Oyster Bay, Nassau county. Per family costs here amounted to \$192.

In Sherrill, a city of 1761 in Vernon town, Oneida county, the costs were \$176. Bolton, a town in Warren county containing 1,184 inhabitants had costs of \$171, and Indian Lake, a town of 1,031 in Hamilton county had a cost of \$166 per family.

This table reveals much the same thing that was shown on page 42. For localities under 2,000 in population, the smaller the population the higher the per family cost. The lowest costs are found in those localities, mostly non-village towns, that have between 1,500 and 2,000 inhabitants. Beyond this point, most of the cases are villages or cities and the increased demands due to urbanization are reflected in the costs. However, although the demands increase as the size of the unit increases, the increased population is able to meet the expenses without increasing the per family burden very greatly. The economy of serving larger numbers would have a tendency to reduce the per family burden while the effect of urbanization would be to cause the local government to assume more and more functions thus increasing the burden. Apparently these two forces are about equal for units that range in population from 2,000 to 15,000 for the tendency is for per family costs to be constant at about \$75 for units of this size. As we consider units that are larger than 15,000 the per family costs rise with the size of the unit. This would indicate that the most economical size of unit for the administration of local government is between 1,500 and 15,000.

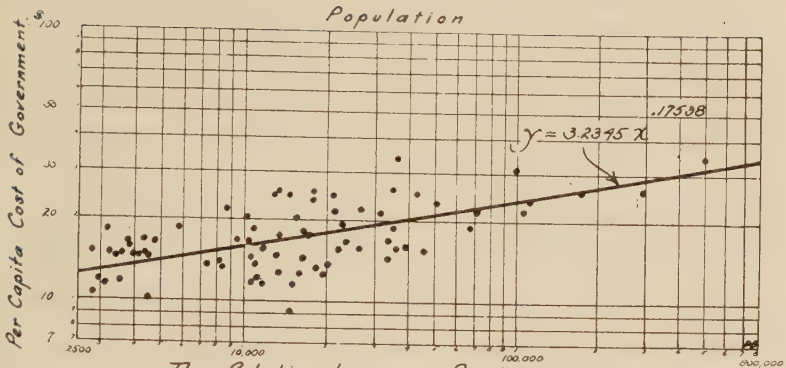
These results are substantiated by the correlation of population and the per capita cost of all local government in 80 municipalities (including non-village towns, villages and cities,¹ all of which contained more than 2,500 inhabitants in 1920). The following results were obtained correlating the logarithms of the two variables:

When x represents the population and
 y represents the *per capita* cost of government
 The line of average relationship is

$$y = 3.2345 x^{0.17538}$$

¹ New York City was excluded.

CHART 11



*The Relation between Population and the
Total per Capita Cost of Local Government - 1920
In Non-village Towns, Villages and Cities, Containing
More Than 2500 Inhabitants*

The coefficient of correlation is $+ .644$ and the standard error of estimate, in logarithmic form, is 0.10075 .

Although the variation is fairly high the value of the coefficient of correlation is large enough to indicate a significant relationship. The line of regression is inclined upward, indicating that for this group as a whole, an increase in population is accompanied by an increase in per capita cost of government.

The "scatter" diagram with the line of regression drawn in is shown in Chart 11. No correlation was calculated for the municipalities containing fewer than 2,500 inhabitants. The "scatter" in these cases is much greater but there is a distinct downward drift indicating that the tendency is for the smaller places to have higher per capita costs.

This part of the study brings out two things. First, that the smaller towns and the smaller counties, providing governmental services in rather sparsely populated districts, do so at a very high per family cost. A reorganization of units in these cases might assist in reducing the expense of government. Second, and more important, this analysis shows the extent to which urbanization increases the cost of government. This is noticeable in counties, cities and villages. There is a constant tendency for the per family costs of government to increase with an increase in population. The prospects for the future are that the cost of government will become more and more important as long as the population increases and the process of urbanization continues.

In an isolated existence the needs that are felt in the city either do not exist or are satisfied directly by the individual himself. On a farm, for example, a shot-gun and a watch-dog provide ample protection. In a city, a large force of skilled policemen is necessary. On a farm and even in a village the disposal of garbage

and sewage is an individual problem. In a city, this problem is not so simply administered. Collective action through the city government is necessary to construct and maintain sewers and plants for the disposal of garbage. The rural inhabitant has "all out-doors" in which to walk and enjoy the sunshine. In the city, fresh air and sunshine are at a premium. If valuable land be reserved where people may walk and sit it must be done at public expense in such a way that the greatest possible use can be made of it. Public parks become more and more necessary as population grows.

Congested population multiplied the needs for governmental services and at the same time probably makes the population more disposed toward collective action. Certainly if cost can be taken as a measure of the quantity of the governmental services performed, this is the case. Also, as the different items included under a given classification of expense are examined, it is evident that city dwellers demand more governmental services than do rural inhabitants.

V. THE INFLUENCE OF POPULATION UPON THE COST OF EDUCATION IN NEW YORK STATE

Because of the different ways in which the cost of education is treated in cities, the preceding analysis has been concerned with the strictly governmental expenses (excluding education). It was desired to see if the same relation exists between population and educational costs as exists between population and governmental costs.¹

Accordingly, the correlation between the logarithms of these two variables was determined. The county was taken as the unit. All the counties were included except the very largest (Greater New York) and the very smallest (Hamilton).

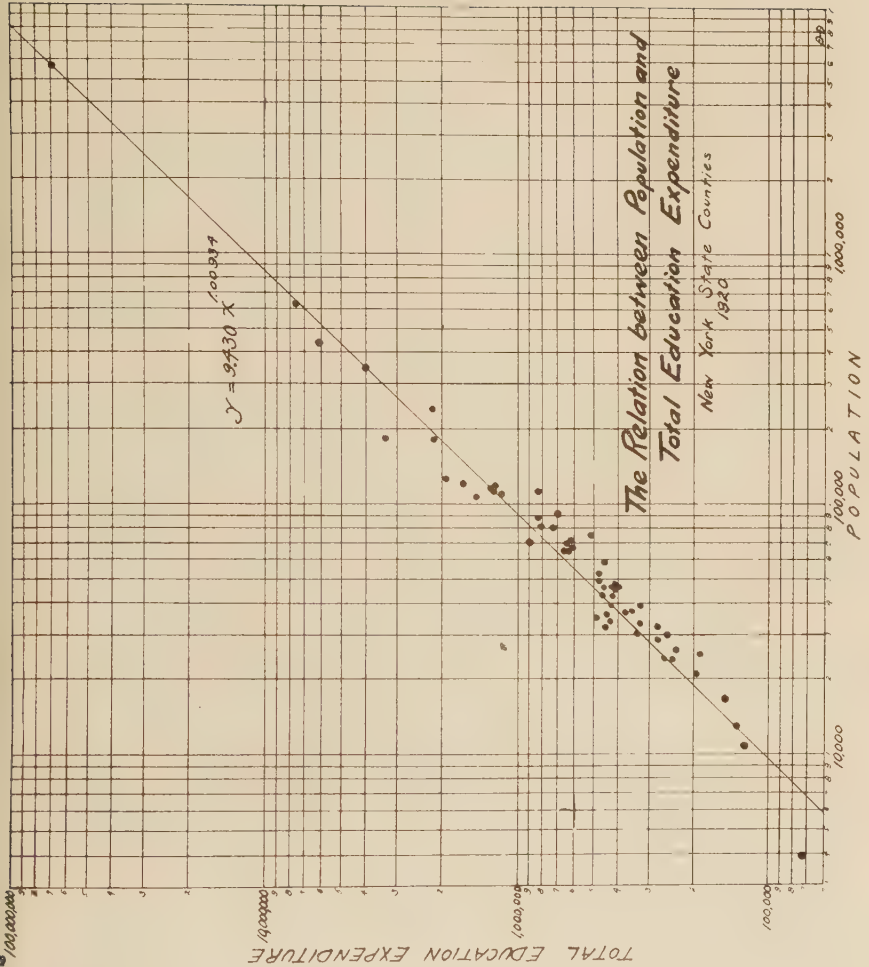
When x is taken to represent population in thousands and y the total cost of education in thousands of dollars, the relationship may be expressed by the following equation:

$$y = 9.430 x^{1.00934}$$

The coefficient of correlation is $+.948$ and the standard error of estimate in logarithmic form is 0.11747 .

Although Greater New York and Hamilton were not included in the calculations they are shown on the "scatter" diagram in Chart 12 as the two extreme items. It is remarkable that the line should pass directly through the point representing New York City. Hamilton county has costs which are much in excess of the amount it theoretically should have, if this law held beyond the limits for which it was determined.

¹ For a discussion of educational costs see *The Financing of Education in the State of New York*, George D. Strayer and Robert Murray Haig. Macmillan.



The exponent of x in this case 1.00934, is only slightly greater than unity. This indicates that in general, the per capita cost of education is not materially greater in large counties than it is in small counties. One explanation of this is undoubtedly the more intensive utilization of educational facilities in populous districts, *i. e.*, the possibility of having schools and classes of economical size, the double shift of classes in the morning and afternoon, night school, summer school, etc.

VI. THE INFLUENCE OF POPULATION UPON THE VALUE OF REAL PROPERTY IN NEW YORK STATE

The following is a study of the influence of population upon the valuation of real property. If population affects the cost of government to such an extent that it costs more than twice as much per capita in counties containing a million inhabitants than it does in counties containing 10,000 inhabitants, what must be the effect of population upon the value of real property, which, as the tax base, must bear a large share of the cost of government? Again there are two ways in which this problem might be studied.

The relationship between the growth of real property valuation and the growth of population might be determined, but there are the same objections to the application of this method here as were noted before. The rise in the general level of prices has carried the valuation of property with it. The relative value of land varies with changes in the social and industrial development. Improved methods of transportation have made remote territories more accessible and have brought areas beyond the boundaries of the state into competition with New York State land. Changes have taken place in administration procedure, changes that have influenced the assessment of land and raise a still more important objection to this mode of attack.

A higher standard of assessment has been gradually brought about largely through dividing the proceeds of the state income tax among municipalities on the basis of the assessed valuation of their real property. In addition, numerous changes have been made in boundaries, making it almost impossible to get comparable property valuation figures over a period of time. Therefore it will be more appropriate to employ the method of correlation in studying the influence of population upon the valuation of real property. The relationship between the population in 1920 and the figures of the State Tax Commission for the full valuation of real property in the same year will be studied.

There is logical ground to expect property valuation to behave as a function of population, that is, to expect a high degree of positive correlation between these two factors. Before a new country is settled the land is next to worthless. The value of land, like the value of anything else, depends upon the available supply of it in relation to the demand for it. Land is somewhat different from most other commodities, however, in that the supply of it is rather definitely limited. In the days of the early settlers the supply seemed limitless, but as time elapsed and population grew the limit became more and more pronounced and the values increased as the demand increased.¹

¹The effective supply of land may be temporarily increased by improvements in transportation and to a very slight extent land area may be increased. Swamp land may be reclaimed and arid land irrigated, but the area so added is relatively insignificant.

It is primarily the demand for land that changes. This demand comes from the needs of the population for housing, food, recreation and sites for carrying on business activities. The population has gone on increasing at a fairly steady rate since the beginning of the state. In general, then, we should expect to see increasing population accompanied by increasing property values. As a matter of fact, the assessed valuation of real estate since 1840 has increased at a rate which is much more rapid than that of the increase of population. (See Chart 1, p. 17.)

The number of people living in a given locality measures the demand for the use of the real property in that locality. The functional relationship between population and the value of real property is, then, one aspect of the law of demand for real property.

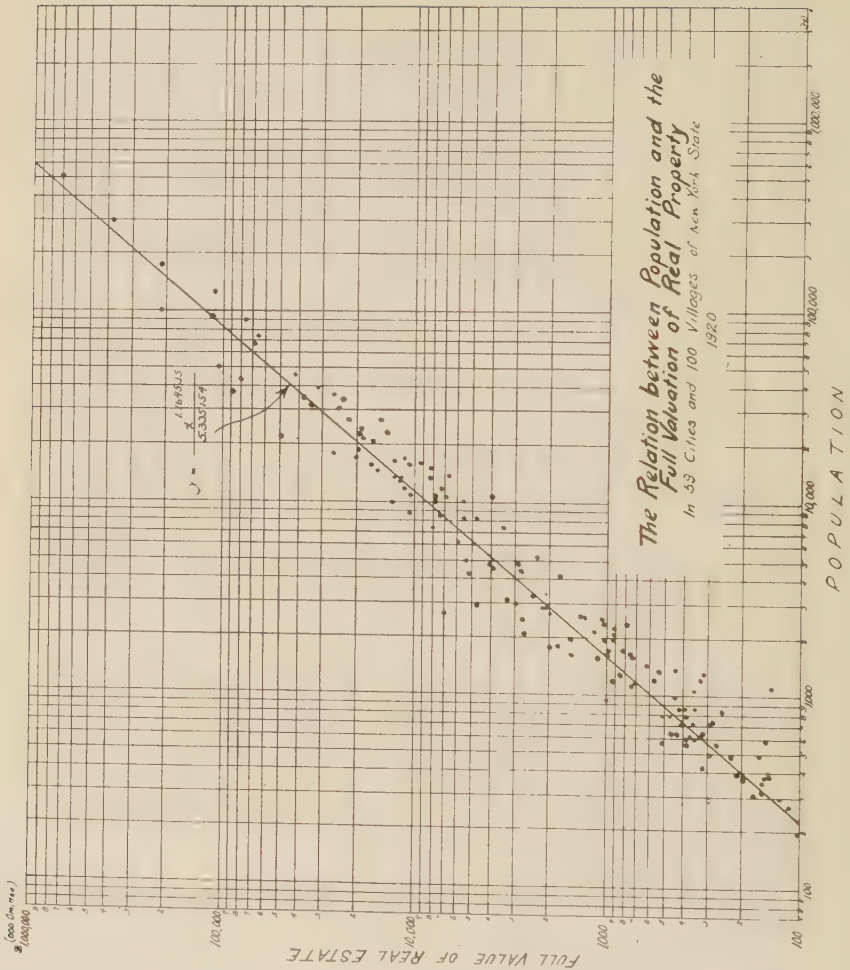
It is well to remember that no two municipalities are exactly alike and no two pieces of property have the same characteristics. Land differs with respect to climate, topography, soil content, distance from the market, environment, etc. The evaluation of land is a very difficult task and it is especially so in the rural districts where property changes hands infrequently and assessments are made by inexperienced men. Therefore, it would be logical to expect considerable variation in the figures of property valuation. Errors in them will be due primarily to the fact that they represent the personal opinions of assessors on a very difficult problem.

It was decided to confine this part of the study to cities and villages. As the distinction between a city and a village is chiefly a legal one there was no reason why the two classes of municipalities should not be considered together. The value of real property results from the fact that there is a demand for it and the demand for it arises from the presence of people living in a given locality, whether it be a city or a village. Cities and villages, therefore, are population centers, and for the immediate purpose of this study they form a homogeneous group.

The inclusion of both cities and villages gives units ranging in population from 80 inhabitants to 500,000 inhabitants and in aggregations of property from \$100,000 to \$1,000,000,000. A study of this group will not only permit the determination of the nature of the relationship between population and property value but also the determination of whether that relationship is the same for large and small places alike throughout New York State.

Accordingly, it was decided to include in this study the 100 sample villages and all of the cities with the single exception of Greater New York. Greater New York is so much larger than any of the other cities that its inclusion would unduly effect the value of the coefficient of correlation. Population figures were obtained from the 1920 census and the full value of real estate from the State Tax Department for the same year. The first step in this analysis was the construction of the "scatter" diagram, (Chart 13. This, it will be noticed, is on double logarithmic coordinate paper extending over four cycles each way. Population is plotted as the independent variable and property value as the dependent variable.

CHART 13



The linearity of the drift is at once evident. Throughout these cities and villages, from the little hamlet of Galway with its ninety-four inhabitants to the city of Buffalo whose inhabitants number half a million, there is a definite tendency for the total property value to vary with the population.

The Pearsonian method of correlation was used here to measure the degree of relationship between these two variables and to determine the mathematical equation describing this relationship. As it is only on double logarithmic paper that this relationship appears linear, the logarithms of the two variables were correlated.

This analysis gives as the line of regression, the following equation:

$$\log y = 1.164535 \log x - 0.727147$$

which in natural form is as follows:

$$y = \frac{x^{1.164535}}{5.335154}$$

Where x represents the population and y represents the full value of real estate in thousands of dollars.

In logarithmic form, the standard error of estimate is 0.234270. The coefficient of correlation, r , has a value of $+ .966$.

To the writer's knowledge, this is the first attempt that has been made to measure the influence of population upon the value of real property. It is recognized that a number of factors may have an influence upon the total property value in a given locality and it will be the purpose of later studies to measure them. The racial characteristics of the population, their industrial habits and their incomes, the proximity of a given locality to a market, the presence or absence of good roads or other means of transportation, climate, topography, and soil conditions are elements that enter the problem. However, the thesis is here advanced that throughout the state, population alone is by far the most important factor. Undoubtedly a great many of the minor elements are reflected in the population figure itself. Population centers grow most rapidly where the best opportunities for living and making a living exist. The more favorable these conditions, the larger will be the population.

Particular interest attaches to the form of the equation describing property value as a function of population. Such an equation should prove useful in studying the problem of equalizing taxes between different districts. It should help in standardizing assessment procedure throughout the cities and villages in the state.

VII. THE INFLUENCE OF POPULATION UPON NET TAXABLE INCOME IN NEW YORK STATE

The foregoing studies establish the fact that the cost of government to the average citizen depends to a large extent upon the size of the municipality in which he lives. The municipalities with the lowest costs have populations between 1,500 and 15,000. As population increases beyond this point, the cost to the average citizen increases with the population. However, this does not seem to hinder the growth of the larger cities. Despite the fact that taxes and the cost of living are higher in cities, people continue to move in from the smaller communities. Although city costs are higher it would seem that the opportunities for making a living there are greater.

It has been established that population and the value of real estate are very closely related. Taking the county as the unit and including all counties except the largest and the smallest (New York City and Hamilton)¹ the following results were obtained when population and income taxable by the state were correlated in logarithmic form. When

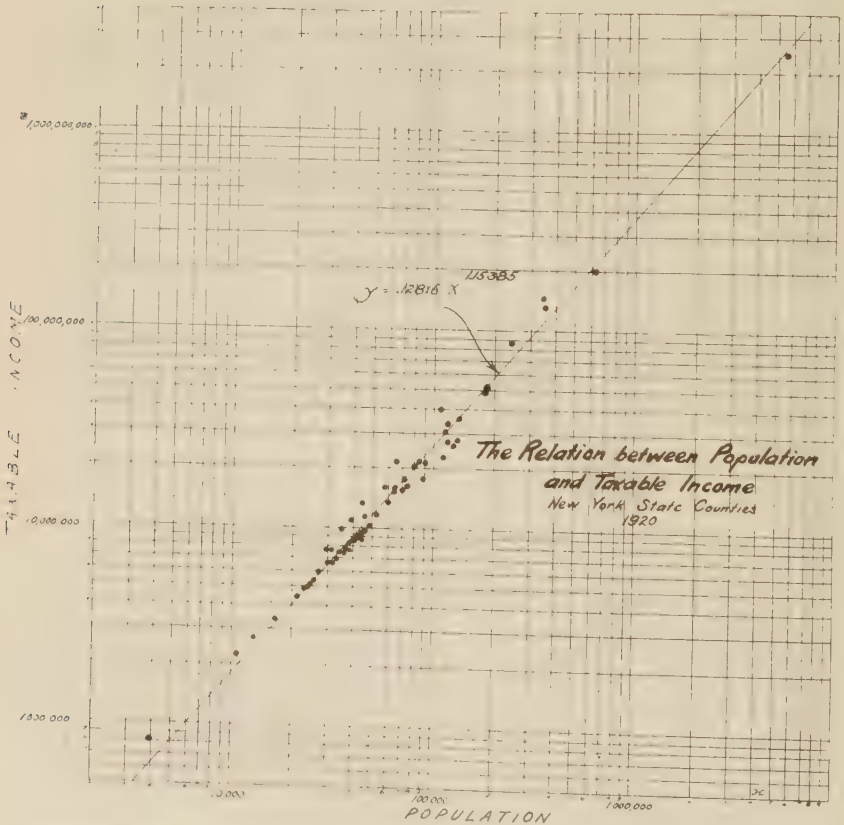
x represents population in thousands, and

y represents total taxable income in millions of dollars, the line of average relationship is

$$y = 0.12816 x^{1.15385}$$

The coefficient of correlation is + .9909 and the standard error of estimate, in logarithmic form is 0.05400. The "scatter" diagram is shown in Chart 14.

CHART 14



¹ Although not included in the calculation these two cases are shown plotted on the "scatter" diagram in Chart 14. Both fall very close to the line of regression.

VIII. SUMMARY AND CONCLUSION WITH SUGGESTIONS FOR FUTURE STUDY

At this point it will be of interest to summarize the results of the studies that have been made of the relationship between population and (1) cost of government, (2) cost of education, (3) value of real property and (4) amount of taxable income. Table XVII presents a summary of these results in concise form and Table XVII-a will aid in the interpretation of these results. Column (1) of Table XVII gives a list of the variables which have been correlated with population. Column (2) tells the number of observations upon which the results rest in each case. The coefficients of correlation are listed in column (3) and the equations of the lines of regression in column (4). Column (5) presents the standard errors of estimates in logarithmic form.

Attention is called to the fact that in correlating population with the cost of local government in municipalities over 2,500 in population, the per capita figure was employed for the sake of convenience. If the total cost of local government had been used the exponent of x in the equation of the line of regression would have been 1.175 instead of 0.175. This would then be comparable with the exponents obtained in the other cases.

In these results we are more interested in the lines of regression than in either the coefficients of correlation or the standard errors of estimate. These lines of regression are the algebraic expressions of the laws describing the influence of population upon the variables in question.

These laws are interpreted in Table XVII-a. This shows the values of the different variables on a per family basis that are found in connection with populations of given size. For example the total per family cost of local government in a county with a population of 10,000 theoretically, would have been \$56 in 1920, while in a county containing 1,000,000 inhabitants the per family cost would have been \$120 or 2.14 times as great. The difference in the size of these two counties accounts for that difference in the relative cost of local government.

The per family cost of education in counties does not obey the same law. In a county of 10,000 inhabitants the per family cost was only four per cent less than in a county containing a million inhabitants.

When the cost of local government to the average family of five persons is studied in cities and villages over 2,500 in population, the results obtained in the first case are corroborated. The total per family cost was \$80 in places of 10,000 while in a municipality of 1,000,000 theoretically it would have been \$180 or 2.25 times as great.

The relative value of real property conforms to a law which is very similar. In municipalities of 10,000 the average per family value of real property was \$4,265 in 1920 while in a place one

hundred times as large the average per family value would have been \$9,100 or 2.13 times as great as in the smaller place.

The average per family state net taxable income in 1920 behaves in a very similar fashion although the evidence shows that the influence of urbanization in increasing the size of the average per family income is not quite as strong as was the case in the other variables. It is possible that in the cities there is more evasion and a less accurate measure of income than in the rural areas. In a county containing 10,000 inhabitants the average per family income was \$910 while in a county one hundred times as large the average per family income was \$1,850 or 2.03 times as much as in the smaller county.

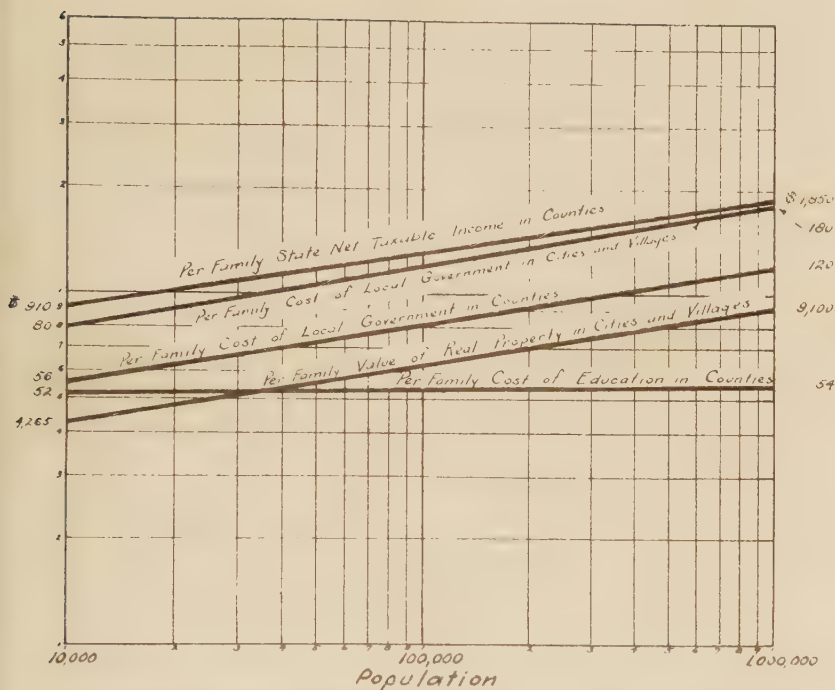
This information is presented in a different form in Chart 15. This chart is constructed to show the comparison of the rates of increase of the variables studied (on a per family basis) as the population of the municipalities considered varies between 10,000 and 1,000,000. The chart is ruled logarithmically both ways. The slopes of the curves are determined by the exponents of x in the equations to the lines of regression (see Table XVII).

The tendency toward parallelism is evident except in the case of cost of education and, to a less extent, in the net income.

TABLE XVII
SUMMARY OF CORRELATION STUDIES

(1) VARIABLES: POPULATION CORRELATED WITH	(2) Number of cases	(3) Coefficient of correlation	(4) Line of regression	(5) Standard error of estimate (log. form)
Total cost of local govern- ment in counties.....	56	+ .970	$y = 0.76980 x^{1.164}$	0.10771
Total cost of education in counties.....	56	+ .948	$y = 9.43 x^{1.009}$	0.11747
Per capita cost of local gov- ernment in municipalities over 2500 in population..	80	+ .644	$y = 3.235 x^{0.175}$	0.10075
Total value of real property in villages and cities.....	159	+ .966	$y = \frac{x^{1.165}}{5.335}$	0.23427
Total taxable income in counties.....	56	+ .991	$y = 0.128 x^{1.154}$	0.05400

CHART 15



Comparison of the Rates at Which Cost of Government, Income and Property Value Increase with Corresponding Increases in the Population.

TABLE XVII-A

INTERPRETATION OF CORRELATION STUDIES

Showing the Per Family Values of the Different Variables Normally Associated with Populations of Given Size—1920

(Shown graphically above)

(1) VARIABLE ON PER FAMILY BASIS	(2) Where the municipality in question has a population of:				
	1,000	3,000	10,000	100,000	1,000,000
Cost of local government in counties.....			\$56	\$82	\$120
Cost of education in counties...			52	53	54
Cost of local government in municipalities over 2,500.....		\$65	80	120	180
Value of real property in cities and villages.....	\$2,920	3,500	4,265	6,230	9,100
Taxable income in counties.....			910	1,300	1,850

Summary:

Statistical methods have been employed in this study for two purposes. First, to describe the cost of government in the state as a whole and in each class of administrative unit. This was done in sections I and II where a cross-section picture of government costs was presented from several different angles. This description revealed a wide variation in relative costs and suggested a study of population as a possible cause of variation. Section III contains a description of the distribution of population in New York State and reveals the importance of the difference in the growth of population in different sections.

The remaining portion of this paper exemplifies the second use of statistical method, namely, in measuring the influence of population upon the cost of government and upon certain other factors intimately related to governmental costs. By the use of the tool of correlation certain laws of relationships were determined that apply (within limits) to the municipalities of New York State.

Suggestions for future study

It remains for later studies to verify these findings and to test their application to other states and countries. Similar studies should be made for more recent periods and for more detailed costs. Variables other than the crude figure of population should be considered. Moreover, the practical utility of laws determined in this way should be tested to justify this quantitative approach to the problems of government. The standardization of methods of assessment for tax purposes is a problem that we feel can be approached by the use of an elaboration of the methods here employed. The distribution of state aid which is now effected in a great many different ways might be standardized by the use of a study of this nature.

APPENDIX

BASIC TABLES OF COST OF GOVERNMENT

TABLE XVIII

SUMMARY OF THE AVERAGE ANNUAL EXPENDITURES OF THE STATE, COUNTIES, CITIES, TOWNS AND VILLAGES
FOR THE DIFFERENT GOVERNMENTAL FUNCTIONS
(Average of the Four Years, 1918-1921, Inclusive)

	General government	Protection	Health	Sanitation	Highways	Charities and corrections	Recreation	Public utilities—Non-commercial	Interest	All others	Total ¹⁰
State.....	\$8,627,414	\$80,698,219	\$1,362,003	.....	\$12,221,374	\$19,101,560	\$368,970	.....	\$9,719,767	\$2,526,074	\$63,625,381
Counties.....	7,030,866	1,037,170	1,421,750	.....	1,320,804	6,849,383	.....	.....	1,404,093	143,837	19,224,628
..... (New York)	26,907,274	41,154,030	5,009,651	16,325,538	7,801,058	18,419,351	4,255,028	\$2,706,261	47,510,790	269,259	170,358,240
First class cities (Buffalo)	2,029,274	4,223,147	1,183,160	1,520,605	978,055	375,778	705,978	1,050,882	1,695,877	27,513	13,790,705
..... (Rochester)	1,041,254	1,648,025	174,153	953,064	809,821	245,958	371,223	25,395	1,900,824	130,529	6,373,146
Second class cities.....	1,652,721	3,812,682	650,020	1,585,734	1,309,628	807,613	510,089	28,291	2,075,238	298,637	12,792,653
Third class cities.....	1,894,958	3,218,720	401,264	1,307,837	2,628,922	898,296	347,178	88,680	1,641,363	274,498	12,641,716
Towns.....	3,025,019	679,781	299,294	223,962	9,071,143	831,181	.....	17,625	476,145	202,214	14,826,364
Villages.....	784,143	1,457,212	167,848	520,479	2,883,478	.....	92,212	45,922	788,040	123,300	6,873,644
Total.....	\$52,993,159	\$66,929,586	\$10,671,443	\$22,426,144	\$39,084,283	\$47,469,120	\$6,650,678	\$3,964,066	\$66,322,137	\$3,995,861	\$320,506,477
Education (all units).....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	11,102,656,652
Total, including education.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	\$423,162,529

⁷ \$2,938,069, classified as "Development and Conservation of Natural Resources," is included in this figure.

⁸ The state's expenditures for sanitation are included in this figure.

⁹ This also includes harbor expenditures.

¹⁰ Educational expenses are not included in this figure.

¹¹ From figures furnished by Educational Finance Commission.

Report of the Special Joint Committee on Taxation and Retrenchment. N. Y. State Legislative Document No. 55. 1922.

TABLE XVIII(a)

SUMMARY OF AVERAGE ANNUAL EXPENDITURES OF THE STATE, COUNTIES, CITIES, TOWNS AND VILLAGES FOR THE DIFFERENT GOVERNMENTAL FUNCTIONS SHOWING THE PERCENTAGE SHARE OF EACH POLITICAL UNIT IN THE TOTAL AVERAGE ANNUAL AMOUNT SPENT FOR EACH FUNCTION

(Based on Table XVIII and Presented Graphically in Charts 3, 4 and 5)

[illegible]

TABLE XVIII(b)

SUMMARY OF AVERAGE ANNUAL EXPENDITURES OF THE STATE, COUNTIES, CITIES, TOWNS AND VILLAGES FOR THE DIFFERENT GOVERNMENTAL FUNCTIONS SHOWING FOR EACH POLITICAL UNIT THE RELATIVE AMOUNTS SPENT FOR EACH FUNCTION

(Based on Table XVIII and Presented Graphically in Chart 6)

	General govern- ment	Protection	Health	Sanitation	Highways	Charities and corrections	Recreation	Public utilities non-com- mercial	Interest	All others	Total
	<i>Per cent</i>	<i>Per cent</i>	<i>Per cent</i>	<i>Per cent</i>	<i>Per cent</i>	<i>Per cent</i>	<i>Per cent</i>	<i>Per cent</i>	<i>Per cent</i>	<i>Per cent</i>	<i>Per cent</i>
State.....	13.56	15.24	2.14	.....	19.21	30.02	0.58	.....	15.28	3.97	100
Counties.....	36.57	5.40	7.40	0.09	6.87	35.63	.....	.....	7.30	0.74	100
First class cities..	15.79	24.16	2.94	9.58	4.58	10.81	2.50	1.59	27.89	0.16	100
	14.72	30.62	8.58	11.04	7.09	2.70	5.13	7.62	12.30	0.20	100
	16.34	25.87	2.74	14.52	12.70	3.86	5.82	0.40	15.70	2.05	100
Second class cities..	12.92	29.80	5.10	12.40	10.71	6.31	3.99	0.22	16.22	2.33	100
	14.99	25.46	3.17	10.35	20.80	6.63	2.75	0.70	12.98	2.17	100
	20.40	4.58	2.02	1.51	61.18	5.62	.....	0.12	3.21	1.36	100
Towns.....	11.41	21.20	2.44	7.57	41.95	.....	1.34	0.68	11.62	1.79	100
Villages.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total.....	16.53	20.88	3.33	7.00	12.19	14.81	2.08	1.24	20.69	1.25	100

TABLE XIX
SUMMARY OF THE POPULATION AND GOVERNMENT COST PAYMENTS (EXCLUSIVE OF EDUCATION) IN ALL POLITICAL
UNITS OF NEW YORK STATE IN 1920, CLASSIFIED BY COUNTIES

COUNTY	Population living in towns, 1920	Total cost payments made by towns, 1920	Population living in villages, 1920	Total cost payments made by villages, 1920	Population living in cities, 1920	Total cost payments made by cities, 1920	Population of the county, 1920	Total cost payments made by county, 1920	Grand total of cost payments made by all governmental units in county, 1920	Per family cost of all local government, 1920
Albany.....	33,702	\$206,131	7,915	\$39,270	152,404	\$2,577,068	186,106	\$971,597	\$3,794,126	\$101.93
Allegany.....	36,842	312,849	13,504	92,952	None	None	36,842	111,904	517,705	70.26
Broome.....	46,810	218,680	25,032	131,736	66,800	1,028,514	113,610	397,031	1,775,951	78.16
Cattaraugus.....	40,515	328,047	13,135	85,518	29,782	328,169	70,297	259,513	1,001,247	71.21
Cayuga.....	29,029	242,479	6,333	30,487	36,192	413,476	65,221	250,912	943,354	72.32
Chautauque.....	57,036	389,906	22,560	132,103	58,253	697,004	115,309	306,913	1,546,016	67.04
Chemung.....	20,479	144,625	7,081	32,678	45,393	564,709	65,872	184,972	926,984	70.36
Chenango.....	26,701	245,660	7,606	44,201	8,268	64,002	34,969	197,293	551,156	78.80
Clinton.....	32,989	182,762	6,788	14,294	10,909	87,604	43,898	156,512	441,172	50.25
Columbia.....	27,185	232,650	3,952	27,703	11,745	123,025	38,930	204,421	587,799	75.49
Cortland.....	16,331	108,731	3,583	18,732	13,294	113,187	29,925	137,754	363,869	61.33
Delaware.....	330,394	330,394	90,747	None	45,996	671,665	91,747	265,471	578,895	67.67
Dutchess.....	45,751	309,207	10,155	317,463	534,761	15,779,144	633,566	2,685,831	19,467,088	55.44
Erie.....	684,650	684,650	99,723	112,363	None	None	31,871	126,580	528,684	82.94
Essex.....	31,871	289,741	9,891	138,686	None	None	42,525	258,774	624,418	73.42
Franklin.....	42,325	226,958	16,608	6,828	32,983	336,187	44,927	151,970	633,519	70.50
Fulton.....	11,944	118,534	2,000	58,037	13,541	188,681	37,631	123,586	565,519	75.14
Genesee.....	24,090	195,215	7,239	65,560	None	None	25,796	110,292	354,504	68.71
Greene.....	25,796	178,652	9,973	None	None	None	3,970	40,622	189,954	201.45
Hamilton.....	3,970	119,332	None	None	None	None	64,962	254,587	843,942	61.11
Herkimer.....	51,933	235,351	34,362	212,285	13,029	105,719	23,250	280,972	1,325,312	80.56
Jefferson.....	50,965	336,996	20,762	139,602	31,285	557,742	83,704	91,421	311,497	65.70
Lewis.....	23,704	169,325	7,487	53,751	None	None	36,830	151,549	488,194	66.27
Livingston.....	36,804	223,839	16,872	112,706	None	None	39,535	189,904	541,504	68.43
Madison.....	28,984	185,548	10,633	73,408	10,541	92,646	352,034	1,485,699	8,652,040	122.83
Monroe.....	56,284	538,292	18,839	119,805	295,750	6,508,244	57,928	2,202,191	8,839,222	72.43
Montgomery.....	24,404	177,833	12,350	99,235	33,524	359,983	126,120	1,168,693	3,010,636	119.35
Nassau.....	117,456	1,159,589	46,565	554,625	8,664	127,729	5,620,048	173,216,161	234,208,285	155.83
New York (greater).....	None	None	None	None	5,620,048	173,216,161	5,620,048	173,216,161	234,208,285	155.83

Niagara.....	30,836	189,293	7,353	55,340	87,550	1,634,693	118,386	419,548	2,298,874	97 09
Oneida.....	60,375	439,601	18,632	102,148	122,258	1,835,031	182,833	737,626	3,114,406	85 17
Onondaga.....	69,273	372,831	28,458	225,862	171,717	3,504,095	240,990	1,332,442	5,445,230	112 97
Ontario.....	241,660	813	42,132	42,132	22,004	224,786	52,652	207,301	5,715,879	72 61
St. Lawrence.....	60,887	411,088	20,294	126,334	58,957	637,091	119,844	365,452	1,740,465	59 25
Schenectady.....	28,619	116,984	13,057	119,122	None	None	28,619	103,040	339,146	60 81
Saratoga.....	34,376	239,746	8,185	41,239	36,069	422,232	71,045	300,445	864,119	64 16
Seneca.....	34,618	267,646	8,636	60,558	11,582	91,624	46,300	173,036	592,874	90 55
Orleans.....	10,802	108,684	2,794	17,096	None	None	10,802	69,259	195,639	97 07
Oswego.....	30,293	201,615	8,347	49,710	82,836	1,293,801	113,129	621,326	2,196,452	76 73
Otsego.....	45,548	203,280	23,884	203,280	None	None	45,548	284,753	699,013	76 73
Pulman.....	73,512	211,000	22,602	161,139	14,009	104,777	88,121	173,806	942,620	53 48
Rensselaer.....	38,682	516,497	13,900	105,277	21,347	330,308	60,029	268,238	1,075,406	89 57
Rockland.....	21,303	145,430	4,358	28,429	88,723	1,756,168	109,363	391,014	2,321,041	106 11
Schoharie.....	21,303	145,402	5,447	35,504	None	None	21,303	59,252	240,158	56 36
Schuyler.....	13,098	88,621	5,091	30,876	None	None	13,098	40,870	169,367	64 65
Seneca.....	24,735	141,658	11,629	126,060	None	None	24,735	101,485	370,103	74 81
Steuben.....	49,782	352,088	17,548	253,270	None	None	80,627	243,064	939,124	59 48
Suffolk.....	33,163	267,484	6,095	39,794	30,845	277,377	110,134	502,898	1,966,712	89 28
Sullivan.....	24,212	144,859	12,132	85,014	None	None	33,163	123,639	430,937	64 97
Tioga.....	18,281	303,174	4,737	21,498	None	None	21,212	89,369	319,862	66 05
Tompkins.....	48,291	184,675	9,765	53,221	17,004	246,404	35,285	116,134	325,348	74 44
Ulster.....	15,035	306,020	630	5,350	26,688	455,764	74,979	348,519	897,162	59 83
Warren.....	44,888	311,347	23,476	142,687	None	None	31,673	165,391	566,887	89 49
Washington.....	48,827	311,347	20,281	185,566	None	None	44,888	144,489	593,196	66 07
Wayne.....	144,290	1,255,137	110,266	1,781,768	None	None	48,827	154,754	651,667	66 73
Westchester.....	30,314	211,131	15,162	99,714	200,146	4,858,724	344,436	1,761,071	9,657,000	140 18
Wyoming.....	16,641	91,411	6,366	42,416	None	None	30,314	95,725	400,570	67 06
Yates.....					None	None	16,641	54,412	188,239	56 56
Total for the State.....	2,208,028	\$17,055,047	\$54,389	\$7,230,477	8,082,755	223,866,805	10,380,753	20,417,881	\$327,082,870	167 50

¹ Indians on State reservations excluded.

² Included in the payments of New York City.

TABLE XX

THE AVERAGE PER FAMILY COST OF THE VARIOUS GOVERNMENTAL FUNCTIONS IN THE DIFFERENT POLITICAL UNITS IN NEW YORK STATE. (BASED ON THE PERIOD 1917 TO 1921, INCLUSIVE, EXCEPT FOR THE STATE WHICH IS BASED ON THE PERIOD 1918 TO 1921, INCLUSIVE)

The information presented in Tables XXI, XXII, XXIII and XXIV is summarized here in condensed form

	General government	Protection	Health	Sanitation	Highways	Charities and corrections	Recreation	Public utilities non-commercial	All others	Interest on temporary loans	Interest on funded debt	Total government cost payments
The State	\$4 16	\$4 67	\$ 65	00	\$5 89	\$9 20	\$ 18	00	\$1 22	(b)	(b)\$4 68	\$30 64
Counties:												
Lowest.....	3 86	32	00	00	19	1 95	00	00	00	00	00	9 73
Lower Quartile.....	6 15	78	16	00	47	4 33	00	00	05	02	31	15 40
Median.....	7 12	99	84	00	76	5 54	00	00	09	07	65	17 77
Upper Quartile.....	8 89	1 21	2 12	00	1 48	7 17	00	00	22	17	1 37	20 50
Highest.....	29 45	2 39	3 47	00	8 52	14 29	00	00	3 46	6 55	8 64	56 58
Towns:												
Lowest.....	2 60	(a)	00	00	00	00	00	00	00	00	00	5 16
Lower Quartile.....	4 19	09	51	00	16 12	38	00	00	06	02	00	22 86
Median.....	5 16	24	72	00	22 63	90	00	00	14	06	00	32 80
Upper Quartile.....	7 20	59	93	00	34 61	2 09	00	(a)	37	14	43	46 39
Highest.....	20 53	9 04	8 95	7 79	89 66	10 54	00	3 02	8 27	99	11 64	109 70
Villages:												
Lowest.....	50	00	00	00	5 43	00	00	00	00	00	00	8 36
Lower Quartile.....	1 73	1 43	48	00	12 03	00	00	00	04	00	00	19 92
Median.....	2 82	3 56	70	33	14 94	00	08	00	30	06	75	27 91
Upper Quartile.....	4 47	6 91	90	2 29	19 56	00	61	00	66	17	3 12	36 76
Highest.....	12 81	21 94	4 74	30 13	59 17	00	3 95	1 74	3 25	2 90	15 48	105 79

Cities of the 2d and 3d class:

Lowest.....	2 35	2 48	38	35	5 96	00	00	03	00	1 67	14 33
Lower Quartile.....	7 23	11 11	1 19	3 03	9 02	55	00	55	09	4 30	44 17
Median.....	8 75	14 16	1 63	5 00	11 11	91	03	1 02	22	6 00	56 44
Upper Quartile.....	10 34	20 33	2 32	8 84	14 36	2 05	19	2 00	67	8 62	72 94
Highest.....	20 00	31 91	6 94	16 95	29 39	9 33	3 63	4 52	6 59	23 60	121 99
Cities of the 1st class:											
New York City.....	23 94	36 61	4 46	14 52	6 94	3 79	2 41	24	(b)	(b) 42 27	151 56
Buffalo.....	20 03	41 67	11 67	15 00	9 65	6 97	10 37	27	(b)	(b) 16 73	136 06
Rochester.....	17 60	27 87	2 94	15 64	13 69	6 28	43	2 21	(b)	(b) 16 92	107 74

(a) Less than 5 mills.

(b) Total interest given under "Interest on funded debt."

TABLE XXI
THE AVERAGE PER FAMILY COST OF THE VARIOUS FUNCTIONS OF COUNTY GOVERNMENT IN FIFTY-SEVEN COUNTIES
OF NEW YORK STATE
(Based on the period 1917 to 1921, inclusive)

General Government		Protection of Persons and Property		Conservation of Health		Highways		Charities and Corrections		Education	
County	Amount	County	Amount	County	Amount	County	Amount	County	Amount	County	Amount
Chautauqua	\$3 86	Chemung	\$0 32	Schoharie		Schenectady	\$0 19	Schuyler	\$1 95	Putnam	\$0 14
St. Lawrence	4 08	Rockland	38	Hamilton		Westchester	21	Hamilton	2 26	Broome	19
Broome	4 91	Westchester	42	Sullivan		Clinton	25	Ulster	2 76	Albany	21
Allegany	5 22	Ulster	43	Clinton		Broome	26	Schoharie	2 96	Chautauqua	22
Franklin	5 36	Clinton	48	St. Lawrence	a)	Dutchess	27	St. Lawrence	3 05	Rensselaer	22
Jefferson	5 37	Cattaraugus	49	Tioga	01	St. Lawrence	29	Cattaraugus	3 23	Dutchess	23
Genesee	5 55	Tioga	54	Schuyler	02	Greene	32	Tompkins	3 24	Chemung	23
Erie	5 55	Tompkins	60	Lewis	04	Suffolk	33	Steuben	3 32	Ulster	24
Oneida	5 94	Chemung	64	Erie	06	Delaware	33	Fulton	3 43	Schenectady	26
Wayne	5 90	Orange	65	Essex	09	Montgomery	34	Delaware	3 46	Niagara	29
Tompkins	6 03	Broome	67	Yates	11	Ontario	37	Orange	3 74	Fulton	29
Montgomery	6 10	Franklin	68	Washington	11	Sullivan	46	Chemung	3 89	Orange	31
Niagara	6 11	Montgomery	72	Seneca	15	Osageo	46	Jefferson	3 93	Rockland	32
Dutchess	6 13	Albany	75	Westchester	16	Herkimer	46	Chautauqua	4 11	Ontario	32
Lower Quartiles	6 15		78		16		47		4 33		33
Schenectady	6 15	Columbia	78	Wyoming	16	Oneida	47	Saratoga	4 33	Oneida	33
Washington	6 28	Seneca	81	Greene	18	Orange	47	Cortland	4 35	Onondaga	35
Yates	6 28	Yates	83	Madison	21	Chemung	48	Schenectady	4 38	St. Lawrence	36
Wyoming	6 30	Saratoga	86	Orleans	26	Essex	52	Wayne	4 45	Steuben	36
Chemung	6 33	Warren	87	Putnam	28	Columbia	52	Greene	4 70	Monroe	37
Osageo	6 42	Jefferson	87	Allegany	33	Schoharie	52	Herkimer	4 74	Montgomery	38
Ontario	6 44	Fulton	88	Cayuga	37	Albany	55	Sullivan	4 77	Washington	39
Steuben	6 46	Herkimer	89	Genesee	38	Allegany	57	Niagara	4 80	Westchester	39
Monroe	6 46	Sullivan	89	Livingston	53	Steuben	57	Montgomery	4 82	Genesee	41
Orange	6 64	Cayuga	92	Cortland	61	Wayne	58	Oswego	4 97	Erie	42
Herkimer	6 66	Schenectady	94	Wayne	68	Genesee	59	Wyoming	4 98	Suffolk	44

Delaware.....	7 00	Essex.....	94	Dutchess.....	75	Monroe.....	70	Nassau.....	5 02	Columbia.....	44
Cayuga.....	7 07	Wayne.....	98	Ulster.....	81	Lewis.....	71	Dutchess.....	5 20	Cayuga.....	45
Tioga.....	7 12	Genesee.....	99	Franklin.....	84	Rensselaer.....	74	Seneca.....	5 48	Herkimer.....	45
Medians.....	7 12	Dutchess.....	90	Franklin.....	84	Fulton.....	76	Lewis.....	5 54	Clinton.....	45
Oswego.....	7 20	Rensselaer.....	1 01	Chenango.....	1 11	Cortland.....	85	Clinton.....	5 57	Lewis.....	45
Cattaraugus.....	7 24	Chautauqua.....	1 01	Albany.....	1 13	Erie.....	86	Rockland.....	5 62	Oswego.....	45
Chenango.....	7 29	Washington.....	1 02	Chautauqua.....	1 16	Yates.....	92	Suffolk.....	5 67	Saratoga.....	46
Clinton.....	7 36	Steuben.....	1 06	Otsego.....	1 26	Washington.....	93	Sullivan.....	5 96	Saratoga.....	48
Schuyler.....	7 46	Lewis.....	1 06	Chenango.....	1 27	Tompkins.....	1 02	Madison.....	6 17	Wyoming.....	49
Fulton.....	7 56	Onondaga.....	1 07	Jefferson.....	1 34	Tioga.....	1 12	Cayuga.....	6 26	Wayne.....	49
Onondaga.....	7 64	St. Lawrence.....	1 07	Jefferson.....	1 52	Chautauqua.....	1 13	Nassau.....	6 30	Nassau.....	49
Livingston.....	7 70	Oswego.....	1 08	Broome.....	1 53	Putnam.....	1 15	Greene.....	6 56	Greene.....	49
Ulster.....	7 73	Schoharie.....	1 10	Suffolk.....	1 65	Livingston.....	1 58	Tioga.....	6 65	Jefferson.....	49
Lewis.....	8 22	Allegany.....	1 12	Herkimer.....	1 67	Wyoming.....	1 36	Washington.....	6 69	Chenango.....	53
Orleans.....	8 44	Erie.....	1 13	Warren.....	1 69	Cattaraugus.....	1 38	Genesee.....	6 97	Yates.....	55
Schoharie.....	8 63	Oswego.....	1 14	Delaware.....	1 74	Warren.....	1 42	Orleans.....	7 06	Cattaraugus.....	56
Rockland.....	8 65	Niagara.....	1 21	Columbia.....	2 12	Niagara.....	1 44	Yates.....	7 08	Schoharie.....	56
Madison.....	8 89	Schuyler.....	1 21	Cattaraugus.....	2 12	Saratoga.....	1 48	Franklin.....	7 17	Tompkins.....	59
Cortland.....	8 89	Onondaga.....	1 21	Ontario.....	2 26	Orleans.....	1 48	Monroe.....	7 32	Warren.....	61
Saratoga.....	8 92	Oneida.....	1 21	Ontario.....	2 26	Schuyler.....	1 74	Broome.....	7 35	Delaware.....	61
Suffolk.....	8 97	Madison.....	1 26	Schenectady.....	2 30	Jefferson.....	1 88	Essex.....	7 54	Schuyler.....	62
Westchester.....	8 97	Delaware.....	1 31	Niagara.....	2 34	Seneca.....	1 89	Oneida.....	7 74	Livingston.....	64
Rensselaer.....	9 02	Ontario.....	1 32	Nassau.....	2 36	Ulster.....	2 35	Livingston.....	8 08	Cortland.....	64
Seneca.....	9 23	Cortland.....	1 33	Onondaga.....	2 41	Oswego.....	2 36	Rensselaer.....	8 57	Seneca.....	66
Warren.....	9 25	Putnam.....	1 39	Oneida.....	2 44	Chenango.....	2 63	Columbia.....	8 66	Tioga.....	68
Albany.....	9 33	Livingston.....	1 39	Fulton.....	2 56	Cayuga.....	2 65	Warren.....	8 67	Madison.....	68
Essex.....	9 74	Wyoming.....	1 52	Monroe.....	2 57	Chenango.....	3 34	Westchester.....	8 83	Allegany.....	68
Sullivan.....	9 93	Greene.....	1 56	Tompkins.....	2 65	Madison.....	3 81	Onondaga.....	8 84	Essex.....	87
Greene.....	10 40	Orleans.....	1 57	Rensselaer.....	3 04	Franklin.....	4 08	Albany.....	9 73	Oswego.....	87
Columbia.....	10 65	Monroe.....	1 85	Montgomery.....	3 07	Onondaga.....	4 75	Erie.....	10 90	Hamilton.....	92
Putnam.....	12 89	Suffolk.....	1 97	Oswego.....	3 22	Rockland.....	6 05	Chenango.....	11 31	Franklin.....	96
Nassau.....	15 82	Nassau.....	2 07	Saratoga.....	3 47	Nassau.....	8 52	Putnam.....	14 29	Orleans.....	96
Hamilton.....	29 45	Hamilton.....	2 39	Rockland.....							

(a) Less than 5 mills.

TABLE XXI -- (Concluded)

All Others		Total Interest Payments		Interest Payments on Bonds		Interest Payments on Temporary Loans		Total	
County	Amount	County	Amount	County	Amount	County	Amount	Amount	Amount
Tioga	.....	Niagara	(a)	Niagara	.....	Monroe	.....	St. Lawrence	\$9 73
Cortland	.....	Genesee	(a)	Genesee	.....	St. Lawrence	.....	Chautauqua	11 69
Wyoming	.....	Wayne	\$0 01	Wayne	.....	Erie	(a)	Steuben	13 05
Steuben	.....	Allegany	2	Allegany	.....	Niagara	(a)	Chemung	13 23
Dutchess	(a)	Steuben	2	Washington	.....	Greene	(a)	Wayne	13 59
Schoharie	(a)	Yates	4	Steuben	.....	Genesee	(a)	Schwylcr	13 98
Monroe	\$0 01	Delaware	6	Yates	\$0 01	Putnam	\$0 01	Dutchess	14 05
St. Lawrence	1	Washington	7	Cattaraugus	3	Wayne	1	Schoharie	14 16
Suffolk	1	Chautauqua	15	Cayuga	4	Steuben	1	Orange	14 36
Westchester	3	Cattaraugus	16	Delaware	5	Delaware	1	Allegany	14 56
Greene	3	Monroe	16	Chautauqua	10	Yates	1	Delaware	14 85
Montgomery	3	Cayuga	18	Monroe	16	Onondaga	1	Tompkins	14 94
Albany	4	Broome	32	Chenango	17	Tompkins	1	Genesee	14 97
Oswego	4	Essex	43	Broome	21	Suffolk	2	Wyoming	15 40
Lower Quartiles	5	.....	45	.....	* 31	.....	2	.....	15 40
Cayuga	5	Chenango	45	Essex	31	Franklin	2	Cattaraugus	15 40
Oswego	5	Oswego	46	Dutchess	31	Ulster	2	Ulster	15 42
Washington	5	Dutchess	49	Wyoming	38	Allegany	2	Broome	15 45
Nassau	5	Erie	49	Oswego	41	Orleans	2	Clinton	15 50
Yates	5	Chemung	53	Livingston	44	Schoharie	2	Washington	15 53
Schwylcr	5	Schoharie	56	Tioga	44	Chemung	2	Yates	15 85
Columbia	6	Wyoming	58	Erie	48	Fulton	3	Jefferson	15 98
Chautauqua	6	Tioga	60	Chemung	50	Schenectady	3	Niagara	16 27
Allegany	6	Livingston	61	Schoharie	54	Columbia	3	Fulton	16 30
Ulster	6	Tompkins	66	Oswego	54	Chautauqua	5	Schenectady	16 30
Herkimer	7	Fulton	68	Cortland	58	Oswego	5	Montgomery	16 38
Franklin	7	Orleans	69	Schwylcr	63	Herkimer	6	Tioga	16 72
Rensselaer	7	Oswego	87	Montgomery	63	Washington	7	Oswego	17 03
Genesee	8	Oneida	87	Tompkins	65	Clinton	7	Sullivan	17 77

Medians.	Niagara	09	St. Lawrence.	89	Fulton.	65	Seneca	07	Cortland.	17	77
	Orleans.....	10	Lewis.....	90	Orleans.....	67	Broome.....	10	Cayuga.....	17	92
	Onondaga.....	11	Sullivan.....	93	Warren.....	68	Madison.....	11	Ontario.....	18	33
	Chemung.....	11	Schuyler.....	94	Lewis.....	74	Onesida.....	12	Herkimer.....	18	53
	Tompkins.....	12	Warren.....	95	Sullivan.....	75	Essex.....	12	Onesida.....	19	16
	Fulton.....	13	Ontario.....	1 06	Onesida.....	75	Cattaraugus.....	13	Monroe.....	19	54
	Onesida.....	16	Ulster.....	1 07	Saratoga.....	82	Cayuga.....	14	Oswego.....	19	56
	Livingston.....	16	Madison.....	1 08	St. Lawrence.....	89	Ontario.....	14	Erie.....	19	71
	Rockland.....	16	Cortland.....	1 10	Ontario.....	91	Jefferson.....	15	Greene.....	19	88
	Clinton.....	20	Montgomery.....	1 12	Madison.....	97	Lewis.....	15	Albany.....	19	90
	Chenango.....	20	Saratoga.....	1 15	Ulster.....	1 06	Tioga.....	15	Suffolk.....	20	30
	Madison.....	22	Clinton.....	1 26	Clinton.....	1 19	Rockland.....	16	Livingston.....	20	34
	Essex.....	22	Suffolk.....	1 26	Suffolk.....	1 25	Orange.....	16	Essex.....	20	35
	Orange.....	22	Onondaga.....	1 27	Onondaga.....	1 26	Lewis.....	17	Seneca.....	20	41
	Broome.....	22	Orange.....	1 53	Orange.....	1 37	Livingston.....	17	Orleans.....	20	50
Upper Quartiles.		22		1 53		1 37		17		20	50
	Ontario.....	26	Jefferson.....	1 58	Jefferson.....	1 42	Dutchess.....	17	Saratoga.....	21	25
	Seneca.....	27	Rockland.....	1 71	Rockland.....	1 55	Sullivan.....	18	Madison.....	21	60
	Cattaraugus.....	27	Schenectady.....	1 76	Schenectady.....	1 73	Wyoming.....	20	Franklin.....	22	31
	Putnam.....	28	Seneca.....	1 93	Seneca.....	1 86	Chenango.....	26	Chenango.....	24	13
	Erie.....	30	Columbia.....	1 95	Columbia.....	1 92	Warren.....	27	Albany.....	24	39
	Sullivan.....	32	Greene.....	2 20	Greene.....	2 19	Westchester.....	27	Warren.....	24	61
	Schenectady.....	32	Franklin.....	2 55	Rensselaer.....	2 39	Rensselaer.....	28	Columbia.....	24	93
	Jefferson.....	35	Putnam.....	2 57	Albany.....	2 46	Schuyler.....	31	Rensselaer.....	25	27
	Delaware.....	38	Albany.....	2 61	Franklin.....	2 54	Otsego.....	33	Westchester.....	25	33
	Wayne.....	39	Rensselaer.....	2 67	Putnam.....	2 57	Saratoga.....	34	Rockland.....	26	34
	Saratoga.....	82	Herkimer.....	3 59	Herkimer.....	3 53	Montgomery.....	49	Onondaga.....	26	37
	Warren.....	1 15	Westchester.....	6 17	Westchester.....	5 89	Cortland.....	52	Putnam.....	33	00
	Hamilton.....	2 57	Nassau.....	7 06	Nassau.....	6 28	Nassau.....	78	Nassau.....	41	98
	Lewis.....	3 46	Hamilton.....	15 19	Hamilton.....	8 64	Hamilton.....	6 55	Hamilton.....	56	58

(a) Less than 5 mills.

TABLE XXII
THE AVERAGE PER FAMILY COST OF THE VARIOUS FUNCTIONS OF TOWN GOVERNMENT IN ONE HUNDRED TWELVE
REPRESENTATIVE TOWNS IN NEW YORK STATE
(Based on the period 1917 to 1921, inclusive)

GENERAL GOVERNMENT			Protection		Health		Sanitation		Highways		Charities and Soldiers' Relief		Education	
Town	Amount	Town	Amount	Town	Amount	Town	Amount	Town	Amount	Town	Amount	Town	Amount	
1. Collins	\$2 69	Turin	(a)	Green Island	\$0 60	(b)	Green Island	\$0 00	Lima	\$0 00	Lima	Manchester	(a)	
2. Ripley	2 66	Freedom	\$0 01	Dix	69	(b)	Ossining	4 13	Sparta	0	Homer	Homer	\$0 01	
3. Milo	2 86	Bolivar	1	Milo	18	(b)	Milo	5 83	Gorham	0	Gorham	Lawrence	1	
4. Westville	3 00	Ellery	1	Lyons	19	(b)	Lyons	6 38	New Baltimore	2	New Baltimore	German Flats	1	
5. Cobleskill	3 16	Freemont	2	German Flats	20	(b)	De Witt	6 58	Princeton	4	Princeton	Seneca	2	
6. Mooers	3 21	Sandy Creek	3	Ossining	20	(b)	Lyons	7 65	Ava	4	Ava	Freedom	2	
7. Bolton	3 27	Carlton	3	Manchester	22	(b)	Milo	8 08	Manchester	5	Ripley	Ripley	2	
8. Lenox	3 29	Cobleskill	3	Homer	26	(b)	Goshen	8 61	Sheldon	5	Sandford	Sandford	2	
9. Plainfield	3 30	Beekman	4	Watkins	26	(b)	Lenox	9 29	Westville	6	Castle	Castle	3	
10. Brunswick	3 33	Sheldon	4	Goshen	27	(b)	Ramapo	9 61	Forestburgh	9	Cobleskill	Cobleskill	3	
11. Homer	3 35	Lawrence	5	Walton	27	(b)	Cobleskill	9 64	Independence	12	De Witt	De Witt	3	
12. Persia	3 36	New Baltimore	5	Cobleskill	27	(b)	Manchester	9 73	Freemont	13	Dix	Dix	3	
13. Green Island	3 40	Norway	5	Moravia	31	(b)	Milton	10 16	Baldwin	15	Milo	Milo	3	
14. Liberty	3 42	Walton	5	Amsterdam	32	(b)	Dix	10 65	Bolivar	15	Austerlitz	Austerlitz	4	
15. Ticonderoga	3 50	Pompey	5	Glenville	34	(b)	Persia	11 32	Holland	17	Gorham	Gorham	4	
16. Rodman	3 55	Moravia	6	Milton	34	(b)	Homer	11 32	Nelson	17	Reading	Reading	4	
17. Walworth	3 61	Green Island	6	De Witt	36	(b)	Collins	11 45	Freedom	19	Pompey	Pompey	4	
18. Walton	3 62	Danby	6	Ghent	37	(b)	Glenville	13 25	Newfane	20	Alexander	Alexander	4	
19. Dix	3 68	Fort Ann	6	Adams	37	(b)	Paris	13 33	Carlton	21	Walworth	Walworth	4	
20. German Flats	3 71	Ft. Covington	6	Catskill	39	(b)	Adams	13 78	Paris	22	Goshen	Goshen	5	
21. New Baltimore	3 78	Nelson	6	Ticonderoga	39	(b)	Lloyd	14 17	Alexander	24	Paris	Paris	5	
22. Florida	3 84	Stratford	6	Bolivar	43	(b)	Brunswick	14 58	Putnam	26	Bolivar	Bolivar	5	
23. Greene	3 85	Seneca	6	Elmira	44	(b)	Ft. Covington	14 76	Collins	27	Westville	Westville	5	
24. Ft. Covington	3 87	Walworth	8	Sandy Creek	48	(b)	Wayland	14 92	Beekman	28	Brunswick	Brunswick	5	
25. Amsterdam	3 99	Greene	8	Ramapo	48	(b)	Walton	14 95	Virgil	32	Glenville	Glenville	6	

26. Lawrence.....	4 02	Plymouth.....	9	Collins.....	49	(b)	00	Moers.....	15 07	Walworth.....	34	Green Island.....
27. Castle.....	4 15	Washington.....	9	Phillipstown.....	49	(b)		Catskill.....	15 19	Austerlitz.....	36	Independence.....
28. Reading.....	4 18	Wayland.....	9	New Paltz.....	50	(b)		New Paltz.....	16 01	Washington.....	36	Wayland.....
Lower Quartile.....	4 19		9		51						33	
29. Moravia.....	4 20	Glenville.....	9	Lenox.....	51	(b)		Amsterdam.....	16 14	Fort Ann.....	39	Riga.....
30. Holland.....	4 20	Milo.....	9	Lima.....	52	(b)		Liberty.....	16 38	Rodman.....	40	Collins.....
31. Sheldon.....	4 22	Altona.....	10	Turin.....	52	(b)		Mayfield.....	16 79	Plymouth.....	42	Carlton.....
32. Sanford.....	4 23	Moers.....	11	Mayfield.....	54	(b)		Sandy Creek.....	16 82	Shelter Island.....	42	Sheldon.....
33. Adams.....	4 26	Brunswick.....	10	Sparta.....	56	(b)		Moravia.....	16 96	Ellery.....	43	Milton.....
34. Wilson.....	4 30	Mayfield.....	11	Reeling.....	56	(b)		Tianderoga.....	17 15	Ripley.....	48	Ft. Covington.....
35. New Paltz.....	4 33	Baldwin.....	11		56	(b)		Bolivar.....	17 17	Elmira.....	49	Newfane.....
36. Altona.....	4 35	Pittstown.....	12	Yates.....	56	(b)		Walworth.....	17 46	Ghent.....	50	Sandy Creek.....
37. Waterloo.....	4 35	Kent.....	12	Riga.....	58	(b)		Oswegatchie.....	17 90	Bethlehem.....	54	Plainfield.....
38. Sempronius.....	4 42	Calms.....	13	Persia.....	58	(b)		Caldwell.....	18 18	Wilson.....	54	Candor.....
39. Dryden.....	4 42	Austerlitz.....	13	Washington.....	60	(b)		Riga.....	18 33	Richford.....	55	Adams.....
40. Davenport.....	4 42	Dryden.....	13	Paris.....	62	(b)		Yates.....	18 58	Liberty.....	56	Greene.....
41. De Witt.....	4 43	Otego.....	13	Gorham.....	63	(b)		Stony Point.....	18 68	New Paltz.....	57	Danby.....
42. Lyons.....	4 51	Dix.....	14	Danby.....	63	(b)		Wilson.....	18 89	Danby.....	58	New Baltimore.....
43. Sandy Creek.....	4 52	New Paltz.....	15	Candor.....	64	(b)		Holland.....	19 19	Norway.....	58	Austerlitz.....
44. Paris.....	4 55	Florida.....	15	Princeton.....	64	(b)		Greene.....	19 45	Greene.....	59	Oswegatchie.....
45. Plymouth.....	4 56	Riga.....	16	Westville.....	64	(b)		Lawrence.....	19 53	Brunswick.....	59	Bolton.....
46. Milton.....	4 61	Reading.....	16	Alexander.....	65	(b)		Phillipstown.....	20 20	Yates.....	59	Liberty.....
47. Manchester.....	4 64	Liberty.....	17	Brunswick.....	65	(b)		Lima.....	20 20	Nanticoke.....	61	Lyons.....
48. Candor.....	4 76	Rodman.....	17	Oswegatchie.....	66	(b)		Westville.....	20 30	Persia.....	61	Holland.....
49. Richford.....	4 79	Summit.....	19	Moers.....	66	(b)		Oyster Bay.....	20 62	Summit.....	65	Moers.....
50. Virgil.....	4 87	Hadley.....	19	Italy.....	67	(b)		Bethlehem.....	20 69	Kent.....	66	Beekman.....
51. Beekman.....	4 88	Wilson.....	20	Beekman.....	67	(b)		Fort Ann.....	21 08	Plainfield.....	66	Lima.....
52. Riga.....	4 96	Alexander.....	20	Sheldon.....	69	(b)		Elmira.....	21 18	Phillipst. wn.....	77	New Paltz.....
53. Fort Ann.....	4 97	Virgil.....	20	Ava.....	69	(b)		Reading.....	21 44	Ft. Covington.....	77	Florida.....
54. Turin.....	4 97	Ava.....	21	Sanford.....	71	(b)		Castle.....	21 59	Somers.....	83	Pottst. wn.....
55. Freedom.....	5 11	Homer.....	22	Nelson.....	71	(b)		Ghent.....	22 61	Dryden.....	85	Baldwin.....
56. Summit.....	5 12	Amsterdam.....	23	Wilson.....	71	(b)		Newfane.....	22 61	Castle.....	88	Lenox.....
Medians.....	5 16	Richford.....	24	Plainfield.....	72	(b)	0	Turin.....	22 64	Davenport.....	90	Yates.....
57. Nelson.....	5 19		24		72	(b)					91	
58. Newfane.....	5 26	Westville.....	27	Virgil.....	73	(b)		Altona.....	23 88	Lloyd.....	95	Ossining.....
59. Carlton.....	5 30	Sanford.....	28	Oscola.....	73	(b)		Somers.....	24 11	Sanford.....	97	Moravia.....
60. Washington.....	5 46	Persia.....	28	Wayland.....	74	(b)		Pittstown.....	24 46	Green Island.....	98	Bethlehem.....

(a) Less than 5 miles. (b) 103 of the 112 towns taken as a sample had no expenditure for sanitation.

TABLE XXII — (Continued)

GENERAL GOVERNMENT			Protection		Health		Sanitation		Highways		Charities and Soldiers' Relief		Education		
Town	Amount	Town	Amount	Town	Amount	Town	Amount	Town	Amount	Town	Amount	Town	Amount	Town	Amount
61. Catskill	\$5 48	Candor	\$0 29	Baldwin	\$0 74	(b)	(b)	Pompey	\$24 55	Catskill	\$1 01	Elmira	12		
62. Mayfield	5 51	Nanticoke	29	Freedom	74	(b)	(b)	Ellery	24 56	Walton	1 05	Italy	12		
63. Wayland	5 55	Waterloo	29	Pittstown	75	(b)	(b)	Sanford	25 54	Goshen	1 07	Washington	12		
64. Pittstown	5 56	Sparta	30	Liberty	75	(c)	(c)	Washington	25 59	Pittstown	1 08	Otego	13		
65. Glenville	5 65	Princeton	31	Plymouth	75	(b)	(b)	Ripley	25 63	Amsterdam	1 12	Nanticoke	13		
66. Freeport	5 68	Ticonderoga	32	Putnam	75	(b)	(b)	Davenport	26 01	Hamptonburgh	1 16	Virgil	14		
67. Bolton	5 71	Ghent	32	Batavia	76	(b)	(b)	Sheldon	26 13	Wayland	1 18	Richford	14		
68. Italy	5 77	Goshen	32	Bethlehem	76	(b)	(b)	Otego	26 48	Osceola	1 22	Turin	14		
69. Lloyd	5 93	Adams	33	Dryden	76	(b)	(b)	Nelson	26 55	Wilmington	1 27	Rodman	14		
70. Independence	6 00	Osceola	37	Independence	78	(c)	(c)	Batavia	27 58	Turin	1 41	Somers	15		
71. Bethlehem	6 03	Castile	39	Albion	80	(b)	(b)	Rodman	27 87	Bolton	1 45	Catskill	15		
72. Alexander	6 04	Catskill	41	Minetto	80	(b)	(b)	Beekman	27 89	German Flats	1 47	Persia	15		
73. Danby	6 11	Batavia	43	Castile	80	(b)	(b)	New Baltimore	28 70	Candor	1 57	Princeton	15		
74. Elmira	6 11	Putnam	44	Richford	82	(b)	(b)	Nanticoke	28 90	Moravia	1 58	Plymouth	16		
75. Otego	6 24	Lenox	46	Walworth	83	(c)	(c)	Candor	29 18	Cobleskill	1 67	Freeport	16		
76. Nanticoke	6 34	German Flats	51	Florida	83	(b)	(b)	Plainfield	29 38	Italy	1 69	Albion	16		
77. Norway	6 39	Italy	52	Rodman	84	(b)	(b)	Summit	29 45	Sandy Creek	1 70	Fort Ann	17		
78. Hamptonburgh	6 51	Lima	55	Pompey	85	(b)	(b)	In lence	30 70	Mayfield	1 75	Ava	17		
79. Lima	6 53	Forestburg	55	Freeport	85	(b)	(b)	Carlton	30 90	In lan Lake	1 84	Ellery	17		
80. Pompey	6 71	Phillipstown	56	Ft. Covington	87	(b)	(b)	Dryden	31 11	Moers	1 92	Mayfield	17		
81. Ellery	6 76	Hamptonburgh	56	Otego	87	(b)	(b)	Plymouth	31 48	Riverhead	1 93	Ghent	18		
82. Putnam	6 90	Somers	56	Norway	88	(b)	(b)	Norway	32 44	Florida	2 00	Riverhead	19		
83. Ava	7 05	Ramapo	58	Hamptonburgh	89	(b)	(b)	Greece	32 81	Batavia	2 04	Summit	20		
84. Goshen	7 15	Oswegatchie	58	Carlton	92	(c)	(c)	Danby	34 50	Caldwell	2 05	Phillipstown	21		
Upper Quartile	7 20		59		93		0		34 61		2 09		21		
85. Yates	7 24	Davenport	60	Fort Ann	93	(b)	(b)	Gorham	34 71	Ramapo	2 12	Greece	21		
86. Wilmington	7 37	Manchester	65	Ripley	94	(b)	(b)	Wilmington	34 79	Sempronius	2 14	Hadley	23		
87. Ghent	7 40	Paris	66	Lawrence	96	(b)	(b)	Richford	35 49	Ossining	2 22	Nelson	23		

88. Caldwell	7 51	Caldwell	75	Newfane	96	(b)	Virgil	35 53	Lenox	2 28	Batavia	29
89. Austerlitz	7 04	De Witt	75	Wilmington	96	(b)	Austerlitz	36 83	Riga	2 33	Ramapo	31
90. Stony Point	7 73	Milton	85	Holland	97	(b)	Hamptonb'gh	36 83	Ticonderoga	2 46	Sparta	33
91. Lodi	7 75	Elmira	86	Kent	98	(b)	Freemont	37 86	Glenville	2 50	Minetto	34
92. Minetto	8 04	Gorham	86	Stony Point	99	(b)	Italy	39 90	Altona	2 58	Putnam	38
93. Ramapo	8 41	Indian Lake	93	Nanticoke	99	(b)	Shelter Island	39 98	Otego	2 73	Kent	39
94. Baldwin	8 44	Bethlehem	94	Austerlitz	1 03	(b)	Minetto	40 04	Milo	2 79	Hamptonb'gh	39
95. Philipstown	8 61	Plantfield	98	Sempronius	1 04	(b)	Riverhead	41 01	Adams	2 92	Watertown	39
96. Sparta	8 89	Independence	1 05	Shelter Island	1 04	(b)	Princeton	41 83	Lodi	2 93	Stony Point	41
97. Gorham	9 38	Lyons	1 06	Lloyd	1 10	(b)	Sempronius	42 02	De Witt	3 04	Dryden	41
98. Riverhead	9 42	Bolton	1 22	Summit	1 11	(b)	Lodi	42 17	Homer	3 29	Davenport	43
99. Batavia	10 24	Minetto	1 36	New Baltimore	1 13	(b)	Florida	42 49	Pompey	3 41	Norway	45
100. Princetown	10 25	Yates	1 54	Ellery	1 18	(b)	Alexander	43 16	Hadley	3 70	Forestburgh	47
101. Hadley	11 08	Lodi	1 72	Hadley	1 22	(b)	Freedom	44 34	Lawrence	3 87	Lodi	49
102. Ossining	11 57	Holland	1 87	Davenport	1 29	(b)	Oseola	46 11	Green	4 36	Ticonderoga	51
103. Oseola	12 49	Ripley	2 15	Riverhead	1 46	(b)	Sparta	46 56	Minetto	4 53	Wilson	51
104. Indian Lake	12 55	Newfane	2 29	Lodi	1 49	(b)	Baldwin	47 10	Watertown	4 68	Oseola	51
105. Stratford	14 51	Shelter Island	2 63	Forestburg	1 69	Lyons	Putnam	43 62	Stony Point	4 72	Stratford	54
106. Shelter Island	14 86	Lloyd	2 76	Somers	1 85	Lenox	Ava	54 53	Lyons	4 87	Wilmington	58
107. Oyster Bay	15 91	Ossining	3 08	Stratford	2 01	Independence	Kent	57 96	Oyster Bay	5 62	Indian Lake	62
108. Greece	16 00	Greece	3 46	Greece	2 49	Walworth	Hadley	58 35	Stratford	5 94	Lloyd	75
109. Forestburgh	18 71	Wilmington	3 54	Oyster Bay	2 66	Ticonderoga	Stratford	61 64	Milton	6 30	Oyster Bay	77
110. Kent	18 48	Stony Point	4 37	Indian Lake	3 47	Bethlehem	Forestburgh	65 03	Reading	7 08	Walton	82
111. Oswegatchie	19 48	Riverhead	4 55	Caldwell	6 40	Oyster Bay	Bolton	67 72	Dix	8 47	Shelter Island	89
112. Somers	20 53	Oyster Bay	9 04	Bolton	8 95	Greece	Indian Lake	89 66	Oswegatchie	10 54	Caldwell	5 26

(a) Less than 5 mills.

(b) 103 of the 112 towns taken as a sample had no expenditure for sanitation.

TABLE XXII — (Continued)

Cemeteries			Public Utilities Non-commercial)			All others			Temporary Interest			Bond Interest			Total		
Towns	Amt.		Towns	Amt.		Towns	Amt.		Towns	Amt.		Towns	Amt.		Towns	Amt.	
1. (c)																	
2. (c)		(d)	Stratford.			(e)			(e)			(e)			Green Island....	\$5 16	
3. (c)		(d)	Beckman.			(e)			(e)			(e)			German Flats....	12 51	
4. (c)		(d)	Summit.			(e)			(e)			(e)			Milo.....	14 12	
5. (c)		(d)	Castle.			(e)			(e)			(e)			DeWitt.....	15 26	
			Plymouth.			(e)			(e)			(e)			Cobleskill.....	15 38	
6. (c)		(d)															
7. (c)		(d)	Rodman.			(e)			(e)			(e)			Manchester.....	15 45	
8. (c)		(d)	Kent			(e)			(e)			(e)			Lenox.....	16 06	
9. (c)		(d)	Ramapo.			(a)			(e)			(e)			Collins.....	16 44	
10. (c)		(d)	Pittstown.			(a)			(e)			(e)			Persia.....	16 57	
			Virgil.....			\$0 1			(e)			(e)			Waterloo.....	16 66	
11. (c)		(d)															
12. (c)		(d)	New Baltimore.			1			(e)			(e)			Croton.....	18 01	
13. (c)		(d)	German Flats.			1			(e)			(e)			Lyons.....	18 79	
14. (c)		(d)	Pompey.....			1			(e)			(e)			Brunswick.....	19 48	
15. (c)		(d)	Sparta.....			1			(e)			(e)			Homer.....	19 57	
			Catskill.....			2			(e)			(e)			Paris.....	19 62	
16. (c)		(d)															
17. (c)		(d)	Mayfield.			2			(e)			(e)			Ft. Covington..	20 47	
18. (c)		(d)	Ellery.....			2			(e)			(e)			Ramapo.....	21 74	
19. (c)		(d)	Adams.....			2			(e)			(e)			Adams.....	21 77	
20. (c)		(d)	Brunswick.			2			(e)			(e)			Bolivar.....	21 86	
			DeWitt.....			3			(e)			(e)			Walton.....	21 88	
21. (c)		(d)															
22. (c)		(d)	Westville.			3			(a)			(e)			Glenville.....	22 11	
23. (c)		(d)	Carlton.....			3			(a)			(e)			Amsterdam.....	22 17	
24. (c)		(d)	Tecondroga.			3			(a)			(e)			Ossining.....	22 22	
25. (c)		(d)	Ft. Covington.			4			\$0 1			(e)			New Paltz.....	22 22	
			Lenox.....			4			1			(e)			Moers.....	22 27	
26. (c)		(d)															
27. (c)		(d)	Ossining.....			4			1			(e)			Catskill.....	22 77	
28. (c)		(d)	Amsterdam.			4			1			(e)			Milton.....	22 78	
			Homer.....			5			2			(e)			Wayland.....	22 83	
Lower Quartile.	0			0			6		2					0			22 86

29. (c)	(d)	Dryden.	06	02	Walworth.	22 89
30. (c)	(d)	Cobleskill.	07	02	Dix.	23 68
31. (c)	(d)	Riverhead.	07	02	Moravia.	23 84
32. (c)	(d)	Minetto.	07	02	Westville.	24 52
33. (c)	(d)	Wilmington.	07	02	Greene.	24 77
34. (c)	(d)	Bethlehem.	08	02	Liberty.	24 99
35. (c)	(d)	Walworth.	08	03	Mayfield.	25 01
36. (c)	(d)	Milton.	08	03	Tionderoga.	25 07
37. (c)	(d)	Lloyd.	09	03	Sandy Creek.	25 29
38. (c)	(d)	Milo.	09	03	Riga.	26 63
39. (c)	(d)	Sheldon.	09	03	Lloyd.	27 58
40. (c)	(d)	Lyons.	09	03	Fort Ann.	27 72
41. (c)	(d)	Dix.	09	03	Castile.	27 86
42. (c)	(d)	Manchester.	10	03	Lawrence.	28 60
43. (c)	(d)	Florida.	10	04	Lima.	29 13
44. (c)	(d)	Lawrence.	10	04	Wilson.	29 59
45. (c)	(d)	Ghent.	10	04	Yates.	29 80
46. (c)	(d)	Moers.	10	04	Turin.	29 94
47. (c)	(d)	Caldwell.	11	05	Elmira.	30 95
48. (c)	(d)	Bolton.	11	05	Phillipstown.	31 01
49. (c)	(d)	Altona.	11	05	Holland.	31 42
50. (c)	(d)	Fort Ann.	11	05	Sheldon.	31 56
51. (c)	(d)	Riga.	12	06	Ghent.	31 71
52. (c)	(d)	Reading.	12	06	Bethlehem.	31 85
53. (c)	(d)	Putnam.	13	06	Pittstown.	32 15
54. (c)	(d)	Stony Point.	13	06	Sanford.	32 22
55. (c)	(d)	New Paltz.	14	06	Ripley.	32 25
56. (c)	(d)	Davenport.	14	06	Altona.	32 65
57. Medians.	0	Sempronius.	14	06	Washington.	32 80
			14	06		32 94
58. (c)	(d)	Liberty.	16	07	Elery.	33 36
59. (c)	(d)	Glenville.	16	07	Reading.	33 69
60. (c)	(d)	Greene.	16	07	New Baltimore.	33 84

(a) Denotes an expenditure of less than 5 mills.

(c) 85 cases of sample had no expenditure for cemeteries.

(d) 79 cases of sample had no expenditure for non-commercial public utilities.

(e) 30 cases of sample had no expenditure for interest on temporary loans.

(f) 65 cases of sample had no expenditure for interest on bonds.

TABLE XXII — (Concluded)

Cemeteries		Public Utilities (Non-commercial)		All others		Temporary Interest		Bond Interest		Total	
Towns	Amt.	Towns	Amt.	Towns	Amt.	Towns	Amt.	Towns	Amt.	Towns	Amt.
61. (c)	...	(d)	...	Walton.....	\$0 16	Glenville.....	\$0 07	(f)	...	Beekman.....	\$33 87
62. (c)	...	(d)	...	Otego.....	17	Washington.....	07	(f)	...	Rodman.....	34 00
63. (c)	...	(d)	...	Italy.....	17	German Flats.....	07	(f)	...	Davenport.....	34 26
64. (c)	...	(d)	...	Phillipstown.....	17	Catskill.....	08	(f)	...	Plainfield.....	35 78
65. (c)	...	(d)	...	Hamptonburgh.....	18	Westville.....	08	(f)	...	Pompey.....	36 56
66. (c)	...	(d)	...	Paris.....	18	Freedom.....	08	(f)	...	Summit.....	36 78
67. (c)	...	(d)	...	Indian Lake.....	18	Sparta.....	08	DeWitt.....	...	Candor.....	36 85
68. (c)	...	(d)	...	Turin.....	19	Owagatchie.....	08	Ramapo.....	\$0 3	Plymouth.....	37 48
69. (c)	...	(d)	...	Richford.....	20	Ghent.....	09	Goshen.....	07	Otego.....	37 61
70. (c)	...	(d)	...	Gorham.....	21	Moravia.....	09	Sempronius.....	08	Dryden.....	37 87
71. (c)	...	(d)	...	Austerlitz.....	24	Batavia.....	10	Ticonderoga.....	9	Nelson.....	37 95
72. (c)	...	(d)	...	Freedom.....	25	Stratford.....	10	Austerlitz.....	14	Stony Point.....	38 20
73. (c)	...	(d)	...	Ripley.....	26	Kent.....	10	Ghent.....	14	Newfane.....	38 62
74. (c)	...	(d)	...	Candor.....	26	Sheldon.....	10	A tona.....	14	Nanticoke.....	38 94
75. (c)	...	(d)	...	Persia.....	27	Ripley.....	11	Collins.....	17	Independence.....	39 41
76. (c)	...	(d)	...	Elmira.....	27	Riga.....	11	Dix.....	17	Carlton.....	39 54
77. (c)	...	(d)	...	Watertown.....	28	Lima.....	12	Sheldon.....	19	Caldwell.....	40 84
78. (c)	...	(d)	...	Vates.....	29	Minetto.....	12	Ossining.....	19	Norway.....	41 69
79. (c)	...	(d)	...	Wayland.....	30	Dryden.....	12	Amsterdam.....	21	Batavia.....	41 81
80. (c)	...	(d)	...	Baldwin.....	32	Italy.....	12	Milton.....	23	Virgil.....	42 21
81. (c)	...	(a)	...	Lodi.....	32	Mayfield.....	12	Davenport.....	31	Richford.....	42 47
82. (c)	...	(a)	...	Batavia.....	33	Greece.....	13	Lyons.....	32	Danby.....	42 51
83. (c)	...	(a)	...	Freemont.....	37	Shelter Island.....	14	New Paltz.....	34	Gorham.....	45 88
84. (c)	...	(a)	...	Alexander.....	37	Davenport.....	14	Bolton.....	42	Austerlitz.....	46 26
Upper Quartile.	0	...	...	...	37	...	14	...	43	...	46 39
85. (c)	...	Paris.....	...	Ava.....	37	Austerlitz.....	14	Lima.....	43	Hamptonburgh.....	46 52

TABLE XXIII
THE AVERAGE PER FAMILY COST OF THE VARIOUS FUNCTIONS OF VILLAGE GOVERNMENT IN ONE HUNDRED
REPRESENTATIVE VILLAGES IN NEW YORK STATE
(Based on the period 1917 to 1921, inclusive)

Total Government Cost Payments		General Governmental		Protection of Persons and Property		Conservation of Health		Sanitation		Highways		Education	
Village	Amount	Village	Amount	Village	Amount	Village	Amount	Village	Amount	Village	Amount	Village	Amount
1. Galway.....	\$8 36	Spencer.....	\$0 50	Nelsonville.....	\$0 00	Corinth.....	\$0 00	Akron.....	\$0 00	Dryden.....	\$5 43	(b)	
2. Holcomb.....	9 97	Moers.....	77	Freeville.....	00	Argyle.....	00	Alexander.....	00	Galway.....	5 97	(b)	
3. Dryden.....	10 55	Mexco.....	90	Argyle.....	00	Madison.....	00	Oxford.....	00	Frankfort.....	6 60	(b)	
4. Bloomingdale.....	11 06	Hagaman.....	96	Galway.....	00	Spencer.....	00	Bloomingdale.....	00	Holcomb.....	6 66	(b)	
5. Valley Falls.....	13 27	Valley Falls.....	1 00	Holcomb.....	00	Panama.....	00	Panama.....	00	Bloomingdale.....	7 02	(b)	
6. Mayfield.....	14 10	Alexander.....	1 05	Bloomingdale.....	02	Bloomingdale.....	01	Spencer.....	00	Allegany.....	8 08	(b)	
7. Oakfield.....	14 83	Mayfield.....	1 05	Van Etten.....	11	Holcomb.....	5	Madison.....	00	Rockville Cen.....	8 79	(b)	
8. Madison.....	14 94	Odesa.....	1 11	Madison.....	12	Akron.....	6	Argyle.....	00	Valatie.....	9 19	(b)	
9. Andes.....	15 37	Unadilla.....	1 11	Andes.....	25	Lyons.....	8	Fishkill.....	00	Valley Falls.....	9 42	(b)	
10. Hagsman.....	15 44	Alfred.....	1 12	Scottsville.....	31	Addison.....	8	Addison.....	00	Scotia.....	9 64	(b)	
11. Allegany.....	15 62	Middleburg.....	1 15	Spencer.....	33	Lake George.....	10	Dundee.....	00	Johnson City.....	9 71	(b)	
12. Gilbertsville.....	16 39	Castleton.....	1 22	Fairhaven.....	48	Amityville.....	10	Caledonia.....	00	Theresa.....	9 73	(b)	
13. Spencer.....	16 45	Montour Falls.....	1 22	Gilbertsville.....	65	Fort Ann.....	10	Alfred.....	00	Penn Yan.....	10 29	(b)	
14. Valatie.....	16 71	Panama.....	1 23	Dryden.....	73	Lake Placid.....	12	Union Springs.....	00	Portville.....	10 38	(b)	
15. Nelsonville.....	16 84	Hoar.....	1 24	Altnar.....	76	Altnar.....	14	Warwick.....	00	Argyle.....	10 70	(b)	
16. Hammond.....	17 24	Bloomingdale.....	1 28	Mayfield.....	82	Union Springs.....	15	Hammond.....	00	Clyde.....	10 76	(b)	
17. Argyle.....	17 53	Fair Haven.....	1 31	Hagaman.....	83	Interlaken.....	16	Otessa.....	00	Horseheads.....	10 83	(b)	
18. Alexander.....	17 56	Dundee.....	1 32	Altamont.....	93	Alfred.....	21	Gilbertsville.....	00	Mayfield.....	10 84	(b)	
19. Ojessa.....	17 73	Oakfield.....	1 32	Valley Falls.....	97	Caledonia.....	27	Moers.....	00	Andes.....	10 86	(b)	
20. Moers.....	17 82	Galway.....	1 33	Copenhagen.....	1 09	Clinton.....	29	Fairhaven.....	00	Nelsonville.....	11 01	(b)	
21. Theresa.....	18 70	Allegany.....	1 43	Panama.....	1 12	Montour Falls.....	36	Mexico.....	00	Ilion.....	11 15	(b)	
22. Port Leyden.....	18 81	Chateaugay.....	1 51	Odesa.....	1 19	Monticello.....	40	Van Etten.....	00	Oakfield.....	11 44	(b)	
23. Akron.....	19 27	Pleasant Valy.....	1 53	Moers.....	1 36	Philmont.....	41	Marathon.....	00	Montour Falls.....	11 52	(b)	
24. Horseheads.....	19 43	Fort Ann.....	1 63	Oakfield.....	1 37	Marlborough.....	44	Pleasant Valy.....	00	Madison.....	11 61	(b)	
25. Panama.....	19 73	Port Leyden.....	1 71	Camden.....	1 42	Moers.....	47	Forestville.....	00	Gilbertsville.....	11 92	(b)	
Lower Quartile.....	19 92		1 73		1 43		48		00		12 03	(b)	00

26. Fort Ann.....	20 11	Interlaken.....	1 74	Lewiston.....	1 44	Oakfield.....	49	Port Leyden.....	0	Castleton.....	12 14	(b)	.....
27. Castleton.....	20 22	Theresa.....	1 74	Schoharie.....	1 50	Camden.....	49	Andes.....	0	Forestville.....	12 21	(b)	.....
28. Philmont.....	20 24	Philmont.....	1 75	Valatie.....	1 51	Horseheads.....	49	Andes.....	0	Hammond.....	12 21	(b)	.....
29. Scottsville.....	20 25	Dryden.....	1 75	Fort Ann.....	1 57	Gilbertsville.....	53	Freeville.....	0	Hagaman.....	12 40	(b)	.....
30. Lewiston.....	21 10	Schoharie.....	1 76	Forestville.....	1 57	Dryden.....	54	Camden.....	1	Akron.....	12 42	(b)	.....
31. Schoharie.....	21 19	Madison.....	1 86	Marathon.....	1 64	Schoharie.....	54	Albion.....	1	Fonda.....	12 74	(b)	.....
32. Forestville.....	21 52	Holcomb.....	1 89	Horseheads.....	1 71	Rockville Cen.....	55	Castleton.....	1	Philmont.....	12 81	(b)	.....
33. Montour Falls.....	23 18	Marlborough.....	2 07	Akron.....	1 75	Frankfort.....	56	Brewster.....	2	Port Leyden.....	13 00	(b)	.....
34. Caledonia.....	23 85	Hammond.....	2 15	Afton.....	1 82	Canton.....	57	Valatie.....	2	Caledonia.....	13 05	(b)	.....
35. Marlborough.....	23 88	Forestville.....	2 18	Alfred.....	1 90	Odessa.....	57	Allegany.....	2	Interlaken.....	13 16	(b)	.....
36. Fishkill.....	24 53	Canisteo.....	2 19	Port Leyden.....	2 04	Castleton.....	60	Copenhagen.....	4	Fishkill.....	13 18	(b)	.....
37. Van Etten.....	24 84	Clinton.....	2 20	Alegany.....	2 28	Hammond.....	60	Dryden.....	4	Schoharie.....	13 42	(b)	.....
38. Fairhaven.....	25 21	Scottsville.....	2 22	Alexander.....	2 28	Portville.....	61	Marlborough.....	5	Alexander.....	13 45	(b)	.....
39. Homer.....	25 23	Skaneateles.....	2 24	Hammond.....	2 28	Middleburg.....	64	Lewiston.....	6	Lewiston.....	13 47	(b)	.....
40. Afton.....	25 54	Caledonia.....	2 33	Philmont.....	2 29	Freeville.....	64	Haverstraw.....	9	Holley.....	13 75	(b)	.....
41. Canisteo.....	25 57	Valatie.....	2 37	New Paltz.....	2 45	Mayfield.....	65	Arcade.....	10	Cedarhurst.....	13 84	(b)	.....
42. Oxford.....	25 81	Fishkill.....	2 58	Fishkill.....	2 68	Cedarhurst.....	65	New Paltz.....	11	Odessa.....	13 90	(b)	.....
43. Frankfort.....	25 89	Fonda.....	2 60	Mexico.....	2 68	Albion.....	66	Galway.....	12	Wellsville.....	13 97	(b)	.....
44. Freeville.....	25 97	Canton.....	2 60	Corinth.....	2 72	Adams.....	67	Horseheads.....	13	Homer.....	13 98	(b)	.....
45. Addison.....	26 09	Horseheads.....	2 66	Fonda.....	2 77	Canisteo.....	67	Canisteo.....	14	Arcade.....	14 16	(b)	.....
46. Dundee.....	26 52	Malone.....	2 73	Pleasant Val'y.....	2 97	Afton.....	67	Perry.....	16	Addison.....	14 37	(b)	.....
47. Pleasant Valley.....	26 53	Copenhagen.....	2 73	Marlborough.....	3 19	Andes.....	68	Unadilla.....	17	Moers.....	14 68	(b)	.....
48. Alfred.....	27 06	Amityville.....	2 77	Arcade.....	3 24	Penn Yan.....	68	Oakfield.....	17	Marlborough.....	14 69	(b)	.....
49. Copenhagen.....	27 07	Gilbertsville.....	2 78	Oxford.....	3 29	Oxford.....	68	Southampton.....	22	Monticello.....	14 81	(b)	.....
50. Mexico.....	27 68	Frankfort.....	2 80	Canisteo.....	3 53	Lewiston.....	69	Chateaugay.....	32	La Salle.....	14 87	(b)	.....
Median.....	27 91	Lewiston.....	2 82	.....	3 56	.....	70	.....	33	.....	14 94	00	.....
51. Middleburg.....	28 13	Lewiston.....	2 83	Castleton.....	3 58	Fishkill.....	70	Clinton.....	34	Spencer.....	15 01	(b)	.....
52. Coxsackie.....	29 22	Nelsonville.....	2 85	Scotia.....	3 66	Albion.....	74	Hagaman.....	34	Canisteo.....	15 13	(b)	.....
53. Johnson City.....	29 41	Penn Yan.....	2 92	Theresa.....	3 84	Jordan.....	74	Scottsville.....	40	Lyons.....	15 18	(b)	.....
54. Adams.....	29 59	Philmont.....	2 93	Dundee.....	3 88	Dundee.....	75	Middleburg.....	47	Warwick.....	15 20	(b)	.....
55. Arcade.....	29 69	Freeville.....	2 95	Adams.....	3 98	Nelsonville.....	76	Rockville Cr.....	59	Albion.....	15 39	(b)	.....
56. Interlaken.....	29 79	Jordan.....	3 02	Coxsackie.....	4 45	Hagaman.....	78	Holcomb.....	62	Port Ann.....	15 53	(b)	.....
57. Chateaugay.....	30 31	Ilion.....	3 29	Perry.....	4 76	Alexander.....	78	Philmont.....	64	Adams.....	15 61	(b)	.....
58. Warwick.....	30 86	Brewster.....	3 30	Canton.....	4 93	Unadilla.....	78	Mayfield.....	72	Scottsville.....	15 68	(b)	.....
59. Scotia.....	31 34	Albion.....	3 36	Skaneateles.....	4 99	Warwick.....	79	Homer.....	79	Van Etten.....	15 78	(b)	.....
60. Canton.....	31 46	Haverstraw.....	3 36	Frankfort.....	4 99	New Paltz.....	80	Malone.....	79	Afton.....	16 46	(b)	.....

(a) Less than 5 mills.

(b) Of the 100 villages only 35 had any educational expenditure. These alone have been listed.

TABLE XXIII -- (Continued)

Total Government Cost Payments		General Governmental		Protection of Persons and Property		Conservation of Health		Sanitation		Highways		Education	
Village	Amount	Village	Amount	Village	Amount	Village	Amount	Village	Amount	Village	Amount	Village	Amount
61. Rockville Center.	\$31 61	Camden	\$3 41	Montour Falls	\$5 20	Arcade	\$0 82	Interlaken	\$0 82	Haverstraw	\$16 46	(b)	
62. Altmar	31 73	Akron	3 51	Holley	5 22	Sloan	82	Port Am	82	Panama	16 55	(b)	
63. Altamont	31 95	Andes	3 59	Liberty	5 48	Theresa	83	Valley Falls	83	Canton	16 74	(b)	
64. Unadilla	31 96	Coxsackie	3 60	Stamford	5 61	Holley	83	Amityville	1 16	Liberty	17 10	(b)	
65. Marathon	32 11	Van Etten	3 61	Unadilla	5 66	Skaneateles	83	Theresa	1 17	Coxsackie	17 38	(b)	
66. La Salle	32 22	Johnson City	3 61	Homer	5 72	Galway	83	Jordan	1 18	Goshen	17 67	Clyde	\$0 01
67. Penn Yan	32 97	Afton	3 66	Middleburg	5 74	Scottsville	84	Montour Falls	1 20	Amityville	18 01	Penn Yan	02
68. Perry	33 14	Arcade	3 68	Clinton	6 02	Brewster	84	Adams	1 44	Dundee	18 03	Fairhaven	09
69. Fonda	33 65	Addison	3 69	Addison	6 19	La Salle	85	Schoharie	1 46	Oxford	18 12	Malone	11
70. Camden	34 37	Altamont	3 81	Monticello	6 24	Perry	85	Cedarhurst	1 61	Chateaugay	18 41	Marlborough	17
71. Amityville	34 58	LaSalle	4 12	Johnson City	6 25	Valley Falls	87	Canton	1 77	Middleburg	18 52	Marathon	20
72. Jordan	35 27	Lake George	4 19	Jordan	6 45	Mexico	88	Scotia	1 91	Mexico	18 95	Altamont	25
73. Monticello	35 27	Tannersville	4 22	Chateaugay	6 49	Fairhaven	88	Nelsonville	2 22	Marathon	19 02	Canisteo	27
74. Clinton	35 45	Monticello	4 30	Interlaken	6 54	Stamford	90	Goshen	2 22	Corinth	19 12	Haverstraw	38
75. Haverstraw	36 28	Perry	4 41	Sloan	6 75	Chateaugay	90	Coxsackie	2 28	Clinton	19 55	Moers	39
Upper Quartile	36 76		4 47		6 91		90		2 29		19 56		45
76. Clyde	37 24	Union Springs	4 52	La Salle	7 07	Tannersville	90	Tannersville	2 29	Fairhaven	19 56	Castleton	50
77. Liberty	37 27	Liberty	4 71	Portville	7 11	Coxsackie	91	Skaneateles	2 29	Pleasant Vly	19 68	Frankfort	51
78. Corinth	37 73	Cedarhurst	4 90	Caledonia	7 33	Coxsackie	91	Altamont	2 40	Albion	19 96	Adams	65
79. New Paltz	37 92	Corinth	5 01	Union Springs	7 33	Allegany	92	Wellsville	2 52	Perry	19 99	Brookport	66
80. Holley	38 17	Adams	5 03	Penn Yan	7 64	Port Leyden	95	Johnson City	2 52	Malone	20 29	Odessa	68
81. Cedarhurst	38 40	Wellsville	5 11	Lyons	8 35	Forestville	1 00	Penn Yan	2 65	Unadilla	20 60	Lewiston	69
82. Iliion	39 22	Brookport	5 54	Goshen	8 43	Pleasant Vly	1 02	Holley	2 87	Alfred	21 33	Canton	76
83. Wellsville	39 50	Lyons	5 62	Albion	8 70	Wellsville	1 04	Monticello	2 96	Copenhagen	21 41	Arcade	78
84. Malone	39 67	Sloan	5 68	Lake George	8 71	Marathon	1 05	Frankfort	3 05	Jordan	21 78	Interlaken	79
85. Skaneateles	41 20	Albion	5 76	Iliion	8 81	Irrington	1 08	Stamford	3 26	Freeville	22 37	Alfred	84
86. Brewster	41 70	Marathon	5 87	Tannersville	9 22	Goshen	1 09	Lake George	3 61	Stamford	22 65	Stamford	1 06
87. Lyons	42 87	Holley	5 99	Cedarhurst	9 99	Valatie	1 09	Liberty	3 92	Skaneateles	22 87	Montour Falls	1 15

88. Goshen.....	46 79	Goshen.....	6 26	Wellsville.....	10 27	Johnson City.....	1 10	LaSalle.....	4 03	Sloan.....	23 82	Pleasant Val'y.....	1 30
89. Lake George.....	50 33	Rockville C'r.....	6 35	Warwick.....	10 31	Liberty.....	1 12	Brockport.....	4 40	New Paltz.....	24 19	Goshen.....	1 34
90. Sloan.....	51 70	Clyde.....	6 43	Clyde.....	11 13	Homer.....	1 13	Corinth.....	4 53	Camden.....	24 58	Wellsville.....	1 36
91. Union Springs.....	53 01	Scotia.....	6 58	Brewster.....	11 28	Haverstraw.....	1 17	Ilion.....	4 82	Brewster.....	25 20	Dryden.....	1 41
92. Stamford.....	54 17	Argyle.....	6 74	Malone.....	11 68	Scotia.....	1 17	Albion.....	5 09	Brockport.....	25 22	Portville.....	1 65
93. Albion.....	59 86	New Paltz.....	6 92	Lake Placid.....	11 79	Clyde.....	1 26	Sloan.....	5 09	Altmar.....	25 78	New Paltz.....	1 79
94. Brockport.....	60 52	South Nyack.....	7 60	Haverstraw.....	12 03	Van Etten.....	1 27	Clyde.....	5 19	South Nyack.....	26 92	Dundee.....	1 93
95. South Nyack.....	61 94	Fishkill.....	7 71	Amityville.....	12 31	Malone.....	1 52	Lyons.....	6 32	Lake George.....	30 56	Ilion.....	2 14
96. Portville.....	62 57	Southampton.....	8 07	South Nyack.....	12 36	Brockport.....	1 79	South Nyack.....	7 71	Irvington.....	32 12	Southampton.....	2 44
97. Tannersville.....	62 82	Lake Placid.....	8 81	Rockville C'r.....	14 98	Fonda.....	2 20	Fonda.....	8 10	Lake Placid.....	35 02	Boltondale.....	2 55
98. Lake Placid.....	87 91	Stamford.....	10 86	Brockport.....	16 13	Ilion.....	2 42	Irvington.....	8 59	Union Springs.....	41 00	South Nyack.....	2 57
99. Irvington.....	93 22	Portville.....	10 89	Southampton.....	19 70	South Nyack.....	2 46	Lake Placid.....	12 37	Tannersville.....	43 61	Irvington.....	3 30
100. Southampton.....	105 79	Irvington.....	12 81	Irvington.....	21 94	Southampton.....	4 74	Portville.....	30 13	Southampton.....	59 17	Albion.....	6 31

(a) Less than 5 mills.

(b) Of the 100 villages only 35 had any educational expenditure. These alone have been listed.

TABLE XXIII — (Continued)

Recreation		Cemeteries		Public Utilities — Non-commercial		All Others		Temporary Interest		Bond Interest	
Village	Amount	Village	Amount	Village	Amount	Village	Amount	Village	Amount	Village	Amount
1. (c)				(e)		(f)		(g)		(h)	
2. (g)		(d)		(e)		(f)		(g)		(h)	
3. (e)		(d)		(e)		(f)		(g)		(h)	
4. (e)		(d)		(e)		(f)		(g)		(h)	
5. (e)		(d)		(e)		(f)		(g)		(h)	
6. (e)		(d)		(e)		(f)		(g)		(h)	
7. (e)		(d)		(e)		(f)		(g)		(h)	
8. (e)		(d)		(e)		(f)		(g)		(h)	
9. (e)		(d)		(e)		(f)		(g)		(h)	
10. (e)		(d)		(e)		(f)		(g)		(h)	
11. (e)		(d)		(e)		(f)		(g)		(h)	
12. (e)		(d)		(e)		(f)		(g)		(h)	
13. (e)		(d)		(e)		(f)		(g)		(h)	
14. (e)		(d)		(e)		(f)		(g)		(h)	
15. (e)		(d)		(e)		(f)		(g)		(h)	
16. (e)		(d)		(e)		(f)		(g)		(h)	
17. (e)		(d)		(e)		Frankfort,	(a)	(g)		(h)	
18. (e)		(d)		(e)		Port Leyden	\$0 01	(g)		(h)	
19. (e)		(d)		(e)		Seaville	01	(g)		(h)	
20. (e)		(d)		(e)		Monticello	01	(g)		(h)	
21. (e)		(d)		(e)		Copenhagen	01	(g)		(h)	
22. (e)		(d)		(e)		Oakfield	01	(g)		(h)	
23. (e)		(d)		(e)		Mayfield	02	(g)		(h)	
24. (e)		(d)		(e)		Valley Falls	02	(g)		(h)	
25. (e)		(d)		(e)		Lyons	03	(g)		(h)	
Lower quartile	00		00		00		04		00		00
26. (c)		(d)		(e)		Hagaman	04	(g)		(h)	
27. (c)		(d)		(e)		Wellsville	05	(g)		(h)	
28. (c)		(d)		(e)		Oxford	05	(g)		(h)	
29. (c)		(d)		(e)		Perry	06	(g)		(h)	
30. (c)		(d)		(e)		Madison	06	(g)	\$0 01	(h)	
						Andes					

31. (c)		(d)	(e)	Interlaken.....	06	Farhaven.....	01	(h)	
32. (c)		(d)	(e)	La Salle.....	07	Marlborough.....	01	(h)	
33. (c)		(d)	(e)	Altamont.....	07	Cossackie.....	01	(h)	
34. (c)		(d)	(e)	Allegany.....	08	Union Springs.....	01	(h)	
35. (c)		(d)	(e)	Castleton.....	09	Pleasant Valley.....	01	(h)	
36. (c)		(d)	(e)	Moers.....	10	Freeville.....	01	(h)	
37. (c)		(d)	(e)	Galway.....	11	Galway.....	01	(h)	\$0 01
38. (c)		(d)	(e)	Philmont.....	12	Monticello.....	02	(h)	
39. (c)		(d)	(e)	Unadilla.....	13	Oakfield.....	02	(h)	04
40. Rockville Center.....	\$0 01	(d)	(e)	Cedarhurst.....	15	Hagaman.....	02	(h)	06
41. Haverstraw.....		(d)	(e)	Odessa.....	16	Camden.....	02	(h)	09
42. Oxford.....	01	(d)	(e)	Fishkill.....	17	Perry.....	02	(h)	10
43. Pleasant Valley.....	01	(d)	(e)	Holley.....	17	Canisteo.....	02	(h)	35
44. Montour Falls.....	02	(d)	(e)	Scotia.....	17	Horseheads.....	03	(h)	35
45. Unadilla.....	02	(d)	(e)	Bloomington.....	19	Irvington.....	03	(h)	43
46. Allegany.....	03	(d)	(e)	Dryden.....	20	Valatie.....	04	(h)	50
47. Altamont.....	05	(d)	(e)	Haverstraw.....	22	Interlaken.....	04	(h)	52
48. Amityville.....	07	(d)	(e)	Caledonia.....	25	Moers.....	05	(h)	54
49. Arcade.....	07	(d)	(e)	Akron.....	26	Homer.....	05	(h)	56
50. Penn Yan.....	08	(d)	(e)	Fort Ann.....	30	Marathon.....	06	(h)	59
51. Tannersville.....	08	(d)	(e)	Forestville.....	30	Addison.....	06	(h)	64
52. Holley.....	09	(d)	(e)	Rockville Center.....	30	Montour Falls.....	07	(h)	75
53. Monticello.....	09	(d)	(e)	Johnson City.....	34	Johnson City.....	07	(h)	86
54. Sloan.....	11	(d)	(e)	Holcomb.....	35	Penn Yan.....	07	(h)	89
55. Brewster.....	12	(d)	(e)	Skaneateles.....	36	Akron.....	07	(h)	92
56. Brockport.....	13	(d)	(e)	Marathon.....	39	Brockport.....	07	(h)	93
57. Clinton.....	16	(d)	(e)	Afton.....	41	Dundee.....	08	(h)	95
58. Perry.....	18	(d)	(e)	Schoharie.....	42	Scotia.....	08	(h)	1 00
59. Malone.....	20	(d)	(e)	Coruth.....	43	Amityville.....	09	(h)	1 04
60. Holcomb.....	22	(d)	(e)	Penn Yan.....	44	Wellsville.....	09	(h)	1 19
61. Schoharie.....	23	(d)	(e)	Stamford.....	44	Argyle.....	09	(h)	1 25
62. Dryden.....	23	(d)	(e)	New Paltz.....	48	Middleburg.....	10	(h)	1 56
63. Liberty.....	23	(d)	(e)	Ilton.....	49	Panama.....	10	(h)	1 65
64. Canisteo.....	25	(d)	(e)	Gilbertsville.....	50	Altamont.....	10	(h)	1 73
65. La Salle.....	25	(d)	(e)	Warwick.....	51	La Salle.....	11	(h)	1 86

(f) 16 of the 100 villages have no expenditure listed as "all other" for 1917-21.
 (g) 29 of the 100 villages have no interest for temporary debt for 1917-21.
 (h) 36 of the 100 villages have no interest for bonded debt for 1917-21.

(c) 39 of the 100 villages have no expense for recreation from 1917-21.
 (d) 84 of the 100 villages have no expense for ce net ries from 1917-21.
 (e) 96 of the 100 villages have no expense for public utilities, non-commercial, for 1917-21.

TABLE XXIII — (Concluded)

Recreation		Cemeteries		Public Utilities — Non-commercial		All Others		Temporary Interest		Bond Interest	
Village	Amount	Village	Amount	Village	Amount	Village	Amount	Village	Amount	Village	Amount
66. Albion.....	\$0 20	(d)	.....	(e)	.....	Fairhaven.....	\$0 53	Warwick.....	\$0 11	Camden.....	\$2 22
67. Canton.....	33	(e)	.....	(e)	.....	Fonda.....	54	Odessa.....	12	Canisteo.....	2 22
68. Interlaken.....	40	(d)	.....	(e)	.....	Homer.....	55	Malone.....	13	Lake George.....	2 35
69. Adams.....	40	(d)	.....	(e)	.....	Dundee.....	55	Clyde.....	13	Fonda.....	2 44
70. South Nyack.....	48	(d)	.....	(e)	.....	Montour Falls.....	55	Schoharie.....	14	Alegany.....	2 53
71. Alfred.....	50	(d)	.....	(e)	.....	Alfred.....	58	Jordan.....	15	Chateaugay.....	2 54
72. Lake George.....	55	(e)	.....	(e)	.....	Coxsackie.....	60	Chateaugay.....	16	Canton.....	2 58
73. Copenhagen.....	58	(d)	.....	(e)	.....	Sloan.....	61	Liberty.....	16	Perry.....	2 71
74. Spencer.....	61	(d)	.....	(e)	.....	Mexico.....	65	Ilion.....	16	Unadilla.....	2 86
75. Caledonia.....	61	(d)	.....	(e)	.....	Clifton.....	65	Portville.....	16	Johnson City.....	3 03
Upper Quartile.....	61	.....	\$0 00	.....	\$0 00	.....	66	.....	17	.....	3 12
76. Middleburg.....	61	(d)	.....	(e)	.....	Malone.....	67	Holcomb.....	18	Forestville.....	3 21
77. Ilion.....	67	(d)	.....	(e)	.....	Jordan.....	68	Southampton.....	19	Clinton.....	3 35
78. Goshen.....	68	(d)	.....	(e)	.....	Arcade.....	70	Lake Placid.....	20	Liberty.....	3 47
79. Castleton (note).....	74	(d)	.....	(e)	.....	Goshen.....	70	Dryden.....	22	Wellsville.....	3 48
80. Warwick.....	75	(d)	.....	(e)	.....	Horseheads.....	71	Theresa.....	22	Marathon.....	3 89
81. Homer.....	77	(d)	.....	(e)	.....	Panama.....	71	Allegany.....	25	Stanford.....	4 38
82. Forestville.....	77	(d)	.....	(e)	.....	Altmar.....	74	Cedarhurst.....	25	Corinth.....	4 43
83. Akron.....	82	(d)	.....	(e)	.....	Van Etten.....	82	New Paltz.....	25	Brookport.....	4 73
84. Valatie.....	87	(d)	.....	(e)	.....	Theresa.....	82	Lake George.....	26	Lyons.....	5 06
85. Camden.....	88	Oakfield.....	02	(e)	.....	Middleburg.....	91	Forestville.....	27	Penn Yan.....	5 18
86. Wellsville.....	90	Ilion.....	02	(e)	.....	Adams.....	92	Copenhagen.....	32	Ilion.....	5 25
87. Afton.....	1 02	Castleton.....	08	(e)	.....	South Nyack.....	1 01	South Nyack.....	32	Interlaken.....	6 10
88. Johnson City.....	1 03	Jordan.....	10	(e)	.....	Tannersville.....	1 02	Sloan.....	34	Arcade.....	6 15
89. Scottsville.....	1 05	Brookport.....	15	(e)	.....	Lake Placid.....	1 06	Haverstraw.....	42	Monticello.....	6 46
90. Skaneateles.....	1 09	Holley.....	15	(e)	.....	Liberty.....	1 08	Goshen.....	43	Frankfort.....	6 60
91. Port Leyden.....	1 12	Lewiston.....	37	(e)	.....	Albion.....	1 08	Philmont.....	54	Cedarhurst.....	7 02
92. Fonda.....	1 23	Akron.....	38	(e)	.....	Clyde.....	1 08	Lyons.....	55	Southampton.....	7 33
93. Clyde.....	1 28	Wellsville.....	74	(e)	.....	Canisteo.....	1 14	Tannersville.....	55	Goshen.....	7 97
94. Madison.....	1 29	Altmar.....	95	(e)	.....	Canton.....	1 17	Alfred.....	59	Scotia.....	8 13
95. Corinth.....	1 50	Fonda.....	1 04	(e)	.....	Camden.....	1 35	Unadilla.....	61	Altamont.....	8 28

96. Lyons	1 89	Horseheads	2 28	(e)	01	Southampton	1 44	Frankfort	79	Sloan	8 49
97. Farhaven	1 99	Penn Yan	3 00	Lyons	02	Lewiston	1 55	Afton	96	Holley	9 09
98. Southampton	2 49	Van Etten	3 25	Montour Falls	76	Valatie	1 62	Stamford	1 06	Albion	11 93
99. Lake Placid	3 05	Mexico	3 62	Addison	1 74	Brockport	1 69	Oxford	1 32	Irvington	13 36
100. Stamford	3 95	Skaneateles	5 61	Johnson City		Marlborough	3 25	Clinton	2 90	Lake Placid	15 48

(d) 84 of the 100 villages have no expense for cemeteries from 1917-21.

(e) 96 of the 100 villages have no expense for public utilities, non-commercial for 1917-21.

TABLE XXIV
THE AVERAGE PER FAMILY COST OF THE VARIOUS FUNCTIONS OF CITY GOVERNMENT IN THE CITIES OF NEW YORK STATE. (FIRST CLASS CITIES TREATED SEPARATELY)
(Based on the period 1917 to 1921, inclusive)

General Government		Protection		Health		Sanitation		Highways		Charities	
Cities	Amount	Cities	Amount	Cities	Amount	Cities	Amount	Cities	Amount	Cities	Amount
1. Sherrill	\$2 35	Sherrill	\$2 48	Rensselaer	\$0 38	Sherrill	\$0 35	Sherrill	\$5 96	Sherrill	\$0 00
2. Olean	5 29	Mechanicville	6 71	Oneida	0 50	Plattsburgh	1 58	Dunkirk	6 02	Canandaigua	01
3. Port Jervis	6 05	Norwich	7 52	Sherrill	0 52	Oswego	1 63	Albany	6 24	Ogdensburg	07
4. Hornell	6 15	Geneva	8 30	Watervliet	0 77	Canandaigua	1 63	Johnstown	7 58	Tonawanda	46
5. Ogdensburg	6 17	Plattsburgh	9 01	Salamanca	0 80	Salamanca	1 70	Watervliet	7 75	Oneonta	85
6. Dunkirk	6 31	Hudson	9 15	Canandaigua	0 84	Ogdensburg	1 72	Mechanicville	8 06	Watervliet	99
7. Oneida	6 63	Hornell	9 20	Mechanicville	0 87	Norwich	1 74	Schenectady	8 10	Hudson	1 11
8. Amsterdam	6 75	Little Falls	9 22	Johnstown	1 00	Geneva	1 87	Cornug	8 25	Dunkirk	1 16
9. Corning	6 94	Cortland	9 47	Batavia	1 05	Oneonta	1 98	Fulton	8 52	Port Jervis	1 18
10. Little Falls	7 07	Salamanca	9 80	Port Jervis	1 13	Hornell	2 20	Hudson	8 58	Rome	1 25
11. Plattsburgh	7 09	Oneonta	10 10	Glen Cove	1 13	Fulton	2 21	Olean	8 61	White Plains	1 44
12. Cortland	7 12	Olean	10 72	Newburgh	1 14	Johnstown	2 83	Norwich	8 89	Middletown	1 79
13. Johnstown	7 12	Johnstown	10 74	Fulton	1 14	Oneida	2 85	Utica	8 94	Mechanicville	1 85
14. Jamestown	7 21	Dunkirk	11 10	Plattsburgh	1 19	Cortland	2 92	Syracuse	8 99	Lackawanna	1 96
Lower Quartile	7 23	.....	11 11	.....	1 19	.....	3 03	.....	9 02	.....	1 97
15. Poughkeepsie	7 25	Ogdensburg	11 12	Hornell	1 19	Rensselaer	3 13	Jamestown	9 04	Colnes	1 97
16. Rome	7 53	Newburgh	11 88	Beacon	1 23	Little Falls	3 17	Amsterdam	9 14	Mt. Vernon	1 99
17. Beacon	7 57	Beacon	11 95	Oneonta	1 28	Cornug	3 25	Cortland	9 30	Hornell	2 24
18. Norwich	7 64	Gloversville	12 14	Tonawanda	1 30	Watervliet	3 41	Rensselaer	9 66	Norwich	2 29
19. Geneva	7 64	Corning	12 18	Lockport	1 40	Olean	3 78	Oneonta	9 71	Niagara Falls	2 32
20. Gloversville	7 68	Canandaigua	12 40	Olean	1 40	Elmira	3 89	Binghamton	10 03	Johnstown	2 35
21. Middletown	7 76	Oswego	12 59	Cortland	1 42	Watertown	3 98	Niagara Falls	10 06	Cortland	2 38
22. Mechanicville	7 92	Watervliet	12 63	Middletown	1 42	N. Tonawanda	4 01	Colnes	10 44	Gloversville	2 35
23. Hudson	8 01	Batavia	13 82	Troy	1 44	Colnes	4 42	Troy	10 65	Beacon	2 61
24. Auburn	8 06	Amsterdam	13 91	Little Falls	1 47	Dunkirk	4 62	Salamanca	10 67	Plattsburgh	2 75
25. Kingston	8 42	Rome	13 92	Binghamton	1 55	Hudson	4 74	Ogdensburg	10 67	New Rochelle	2 86

26. Newburgh.	8 44	Middletown	13 14	Ogdenburg	1 61	Jamestown	4 74	Glen Falls.	10 71	Utica.	3 00
27. Ithaca.	8 55	Poughkeepsie.	13 36	Cohoes	1 62	Mechanicville	4 80	Little Falls.	10 75	Little Falls.	3 10
28. Salamanca.	8 61	Port Jervis.	14 00	Corning	1 63	Saratoga Springs.	4 97	Ithaca.	11 05	Ithaca.	3 11
29. Utica.	8 75	Glen Falls.	14 10	New Rochelle	1 63	Beacon	5 00	Yonkers.	11 11	Yonkers.	3 17
	8 89		14 31		1 64			Poughkeepsie.	11 17		3 22
30. Watervliet.	9 01	Kingston.	14 65	Geneva	1 69	Tonawanda	5 08	Oneida.	11 22	Oneida.	3 22
31. Binghamton	9 18	Fulton	14 88	Norwich	1 77	Lockport.	5 27	Batavia	11 65	Batavia	3 35
32. Lockport.	9 20	Oneida	15 50	Rome.	1 92	Binghamton	5 65	Auburn.	11 78	Auburn.	3 37
33. Rensselaer.	9 23	Jamestown	16 20	Ithaca.	1 94	Newburgh	6 42	Rome	11 84	Elmira.	3 41
34. Canandaigua.	9 60	Cohoes	16 62	Hudson	1 96	Auburn	6 47	Elmira.	12 27	Corning	3 43
35. Watertown.	9 77	Gloversville	16 69	Gloversville	1 98	Middletown	6 48	N. Tonawanda	12 50	Rensselaer	3 62
36. Fulton.	9 79	Rensselaer	17 52	Mt. Vernon	2 01	Poughkeepsie.	7 02	Fulton	12 54	Fulton	3 65
37. Glen Falls	9 80	Glen Cove	17 77	Kingston	2 04	Gloversville	7 06	Olean	13 09	Olean	3 77
38. Batavia	9 83	Saratoga Springs	18 60	Glen Falls	2 06	Mt. Vernon	7 42	Albany	13 17	Albany	3 89
39. Schenectady	9 93	Ithaca.	18 69	White Plains.	2 13	Glen Falls	7 68	Glens Falls	13 29	Glens Falls	3 94
40. Oneonta.	10 06	Auburn	19 08	Elmira	2 20	White Plains	8 55	Batavia	13 29	Amsterdam	3 94
41. Cohoes	10 06	Tonawanda	19 46	Albany	2 28	Rome	8 63	Newburgh	13 32	Schenectady	3 98
42. Oswego	10 24	Binghamton.	20 16	Saratoga Springs	2 31	Ithaca.	8 75	Yonkers.	14 19	Watertown	5 19
Upper Quartiles	10 34		20 33		2 32		8 84		14 36		5 41
43. Elmira.	10 43	Watertown	20 49	Lackawanna.	2 32	Amsterdam.	8 93	Lockport.	14 53	Glen Cove.	5 63
44. Niagara Falls	10 69	Utica.	20 66	Watertown	2 36	Port Jervis.	9 43	Oneida.	14 58	Syracuse	5 96
45. Syracuse.	11 03	Lockport.	20 77	Utica	2 39	Albany	9 48	Ithaca	14 68	Kingston	6 31
46. N. Tonawanda.	11 05	Schenectady.	20 96	N. Tonawanda	2 53	Syracuse	9 56	Tonawanda.	14 98	Newburgh	6 49
47. Troy	11 23	White Plains	22 03	Dunkirk	2 55	Kingston.	9 99	Auburn.	15 62	Saratoga Springs	7 35
48. Albany	11 58	Mt. Vernon	22 56	Amsterdam	2 73	Utica	10 63	Mt. Vernon.	16 01	Troy	7 93
49. Lackawanna.	13 40	Niagara Falls	22 58	Jamestown	2 88	Batavia	11 26	Port Jervis.	16 10	Oswego.	8 51
50. Mount Vernon.	13 41	N. Tonawanda	22 82	Poughkeepsie	3 07	Glen Cove.	11 43	Canandaigua	16 13	Geneva	8 95
51. Tonawanda.	14 43	Lackawanna.	25 42	Oswego	3 16	Troy	12 30	Watertown	17 64	N. Tonawanda	9 92
52. Yonkers.	15 98	Troy	26 09	Auburn	3 86	Niagara Falls	14 11	Beacon	18 13	Jamestown	10 18
53. New Rochelle	16 17	Syracuse	27 27	Niagara Falls	4 03	Schenectady	14 34	Lackawanna	19 36	Salamanca	10 47
54. Saratoga Springs.	18 64	New Rochelle.	28 13	Schenectady	5 62	Yonkers	15 61	New Rochelle.	20 83	Lockport.	11 14
55. White Plains.	19 60	Albany	29 30	Syracuse	6 19	Lackawanna	15 11	Kingston	24 90	Poughkeepsie	11 81
56. Glen Cove.	20 00	Yonkers.	31 91	Yonkers.	6 94	New Rochelle	16 95	Saratoga Springs	29 39	Binghamton.	11 81
First class cities:											
New York City.	23 04		36 61		4 46		14 52		6 04		16 39
Buffalo	20 03		41 67		11 67		15 00		3 71		9 65
Rochester.	17 60		27 87		2 94		15 64		13 69		4 16

TABLE XXIV — (Concluded)

Recreation		Public Utilities — Non-commercial		Bond Interest		Temporary Interest		All Other		Total Government Cost Payments (Excluding Education)	
Cities	Amount	Cities	Amount	Cities	Amount	Cities	Amount	Cities	Amount	Cities	Amount
1. Sherrill	\$0 00	.....	.....	Middletown.....	\$1 67	Lockport.....	\$0 00	Sherrill.....	\$0 03	Sherrill.....	\$14 33
2. Amsterdam.....	05	.....	2 28	Sherrill.....	2 28	Rensselaer.....	(a)	Oneida.....	25	Johnstown.....	37 24
3. Rensselaer.....	09	.....	2 57	Oneida.....	2 57	Niagara Falls.....	(a)	Johnstown.....	26	Hornell.....	38 00
4. Watervliet.....	17	.....	3 01	Mt. Vernon.....	3 01	Mt. Vernon.....	01	Cortland.....	30	Plattsburgh.....	38 24
5. Cortland.....	19	.....	3 48	Mechanicville.....	3 48	Mechanicville.....	01	Ogdensburg.....	31	Ogdensburg.....	38 37
6. Plattsburgh.....	20	.....	3 52	Oneonta.....	3 52	Oneonta.....	01	Hornell.....	35	Norwich.....	38 05
7. Port Jervis.....	21	.....	3 56	Little Falls.....	3 56	Little Falls.....	02	Gloversville.....	36	Oneonta.....	40 13
8. Tonawanda.....	35	.....	3 58	Albany.....	3 58	Albany.....	01	Salamanca.....	36	Mechanicville.....	40 79
9. Fulton.....	35	.....	3 65	Auburn.....	3 65	Auburn.....	03	Glen Cove.....	45	Cortland.....	41 15
10. Lackawanna.....	37	.....	3 83	Corning.....	3 83	Corning.....	04	Oneida.....	46	Dunkirk.....	41 28
11. Mechanicville.....	38	.....	3 93	Hudson.....	3 93	Hudson.....	04	Oneida.....	51	Oneida.....	43 42
12. Johnstown.....	43	.....	4 05	Hornell.....	4 05	Hornell.....	07	Kingston.....	52	Watervliet.....	43 61
13. Hornell.....	50	.....	4 13	Ithaca.....	4 13	Ithaca.....	07	Saratoga Springs.....	54	Little Falls.....	43 99
14. Canandaigua.....	50	.....	4 24	Auburn.....	4 24	Elmira.....	08	Glen Falls.....	55	Hudson.....	44 10
Lower Quartile.....	50	.....	4 30	.....	.....	.....	09	.....	55	.....	44 17
15. N. Tonawanda.....	59	.....	4 35	Lockport.....	4 35	Lackawanna.....	09	Geneva.....	57	Corning.....	44 24
16. White Plains.....	60	.....	4 39	Glen Falls.....	4 39	Glen Cove.....	09	Coboes.....	62	Middletown.....	46 39
17. Batavia.....	63	.....	4 50	Johnstown.....	4 50	Saratoga Springs.....	11	Newburgh.....	62	Canandaigua.....	46 70
18. Ogdensburg.....	63	.....	4 64	Newburgh.....	4 64	Binghamton.....	11	Watertown.....	67	Oneida.....	47 35
19. Hudson.....	66	.....	5 06	Little Falls.....	5 06	Dunkirk.....	12	Elmira.....	68	Gloversville.....	50 28
20. Salamanca.....	70	.....	5 11	Elmira.....	5 11	Plattsburgh.....	13	Canandaigua.....	71	Amsterdam.....	51 48
21. Middletown.....	74	.....	5 30	Hudson.....	5 30	Poughkeepsie.....	13	Binghamton.....	80	Rome.....	52 02
22. Mt. Vernon.....	76	.....	5 40	Gloversville.....	5 40	Canandaigua.....	13	Auburn.....	83	Salamanca.....	52 33
23. Glen Cove.....	77	.....	5 46	Lackawanna.....	5 46	Glen Falls.....	13	Hudson.....	92	Fulton.....	52 92
24. Lockport.....	78	.....	5 57	Beacon.....	5 57	Cortland.....	13	Middletown.....	93	Geneva.....	52 94
25. Oneida.....	78	.....	5 96	.....	5 96	Oswego.....	14	Utica.....	98	Port Jervis.....	53 20
26. Norwich.....	88	.....	5 85	Lockport.....	5 85	Troy.....	15	Port Jervis.....	99	Coboes.....	53 83
27. Gloversville.....	90	.....	5 95	Dunkirk.....	5 95	Port Jervis.....	19	Plattsburgh.....	99	Beacon.....	54 31

28. Beacon.....	91	Cortland.....	2	Troy.....	5 95	Beacon.....	21	Little Falls.....	1 00	Glens Falls.....	56 12
29. Medians.....	91	Poughkeepsie.....	3	Glen Cove.....	6 00	Combined Md. 6.12	22	Beacon.....	1 02	Rensselaer.....	56 44
30. Cohoes.....	91	Oswego.....	4	Norwich.....	6 04	N. Tonawanda.....	22		1 04		56 76
31. Auburn.....	1 04		5		6 39	Rome.....	23	Ithaca.....	1 04	Newburgh.....	56 96
32. Rome.....	1 10	Kingston.....	6	Saratoga Springs.....	6 49	Watertown.....	24	Tonawanda.....	1 11	Elmira.....	59 62
33. Oswego.....	1 16	Johnstown.....	7	Cohoes.....	6 72	Watervliet.....	26	Jamestown.....	1 11	Oswego.....	60 67
34. Jamestown.....	1 23	Oneonta.....	7	Jamestown.....	6 80	Oneida.....	27	Norwich.....	1 16	Jamestown.....	61 53
35. Binghamton.....	1 26	Lackawanna.....	8	Utica.....	6 89	Ogdensburg.....	31	N. Tonawanda.....	1 20	Auburn.....	62 72
36. Dunkirk.....	1 28	Auburn.....	12	Watervliet.....	6 99	Johnstown.....	32	Mechanicville.....	1 21	Ithaca.....	62 97
37. Glens Falls.....	1 34	New Rochelle.....	12	Olean.....	7 12	Middletown.....	33	White Plains.....	1 23	Utica.....	66 87
38. Olean.....	1 41	Dunkirk.....	13	Geneva.....	7 46	Sherrill.....	36	Albany.....	1 25	Tonawanda.....	66 99
39. Ithaca.....	1 47	Niagara Falls.....	14	N. Tonawanda.....	7 88	Newburgh.....	37	Rome.....	1 25	Batavia.....	66 99
40. Schenectady.....	1 70	Middletown.....	14	Cortland.....	7 90	Gloversville.....	42	Watervliet.....	1 62	Binghamton.....	68 56
41. Elmira.....	1 74	Schenectady.....	16	Binghamton.....	8 00	Cohoes.....	44	Amsterdam.....	1 62	Watertown.....	70 65
42. Oneonta.....	1 79	N. Tonawanda.....	17	Watertown.....	8 05	Geneva.....	52	Corning.....	1 70	Lockport.....	71 30
43. Little Falls.....	2 04	Newburgh.....	18	Salamanca.....	8 25	Tonawanda.....	55	Troy.....	1 95	N. Tonawanda.....	72 90
Upper Quartile.....	2 05		19		8 62		67		2 00		72 94
44. Niagara Falls.....	2 05	Syracuse.....	19	Mechanicville.....	8 98	Norwich.....	78	Dunkirk.....	2 05	Poughkeepsie.....	72 98
45. Geneva.....	2 17	Yonkers.....	21	Fulton.....	9 12	Olean.....	82	Batavia.....	2 20	Glen Cove.....	73 36
46. Watertown.....	2 20	Corning.....	23	Tonawanda.....	9 28	Batavia.....	86	Fulton.....	2 21	Kingston.....	75 41
47. Yonkers.....	2 42	Troy.....	35	Rensselaer.....	10 11	Jamestown.....	86	Niagara Falls.....	2 22	Troy.....	81 05
48. Troy.....	2 47	Albany.....	37	Batavia.....	10 61	Amsterdam.....	89	New Rochelle.....	2 25	Schenectady.....	82 70
49. Utica.....	3 01	Ithaca.....	43	Poughkeepsie.....	11 09	Salamanca.....	98	Lockport.....	2 36	Niagara Falls.....	83 34
50. Little Falls.....	3 07	Little Falls.....	1 09	Syracuse.....	11 37	Fulton.....	1 06	Schenectady.....	2 44	Lockawanna.....	86 70
51. Newburgh.....	3 46	Saratoga Springs.....	1 16	Schenectady.....	13 51	White Plains.....	1 10	Syracuse.....	2 47	Albany.....	87 48
52. Kingston.....	3 83	Canandaigua.....	1 18	Niagara Falls.....	15 14	Kingston.....	1 21	Rensselaer.....	3 03	Syracuse.....	89 29
53. Syracuse.....	3 90	Glens Falls.....	1 22	Albany.....	15 55	New Rochelle.....	1 28	Lackawanna.....	3 14	White Plains.....	90 25
54. Poughkeepsie.....	4 13	Jamestown.....	1 23	New Rochelle.....	17 87	Utica.....	1 34	Mt. Vernon.....	3 18	Mt. Vernon.....	90 95
55. Albany.....	6 92	Ogdensburg.....	2 75	White Plains.....	20 28	Schenectady.....	1 95	Poughkeepsie.....	3 33	Saratoga Springs.....	98 89
56. New Rochelle.....	7 00	Elmira.....	3 13	Yonkers.....	21 92	Syracuse.....	2 37	Yonkers.....	3 99	New Rochelle.....	115 09
57. Saratoga Springs.....	9 33	Hudson.....	3 63	Mt. Vernon.....	23 60	Yonkers.....	6 59	Oswego.....	4 52	Yonkers.....	121 99
New York City.....	3 79		2 41		*42 27		()		24		151 56
Buffalo.....	6 97		10 37		*16 73		()		27		136 06
Rochester.....	6 28		43		*16 92		()		2 21		107 74

* Only Total Interest Payments are given for First Class Cities.

(a) Less than 3 mills.

VITA

Donald Hills Davenport was born in Berwick, Pennsylvania, March 6, 1896. He attended Rutgers College, 1915-1917; the Sorbonne University 1919; Columbia University 1919-1924. He received two degrees from Columbia University, B.S. in Business in 1921 and A.M. in Economics in 1922. He studied under the Faculty of Political Science of Columbia University from 1921 to 1924, attending the classes of Professors E. R. A. Seligman, Robert E. Chaddock, Wesley Clair Mitchell, Henry L. Moore, Henry R. Seager and V. G. Simkhovitch.

Since 1921 he has been on the staff of the School of Business of Columbia University in the capacity of Assistant Instructor of Business Administration 1921-22 and 1922-23 and Instructor of Business Statistics from 1923 to the present time.

He was a member of the research staff of the Special Joint Committee on Taxation and Retrenchment of New York State in 1921-22 and again in 1922-23. In 1925 he collaborated with Professor Frederick C. Mills in publishing *A Manual of Problems and Tables in Statistics*.

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